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# Bulletin No. 65

# QUALITY OF SURFACE WATERS IN CALIFORNIA

## 1955-1956

GOODWIN J. KNIGHT
*Governor*

HARVEY O. BANKS
*Director of Water Resources*

December, 1957

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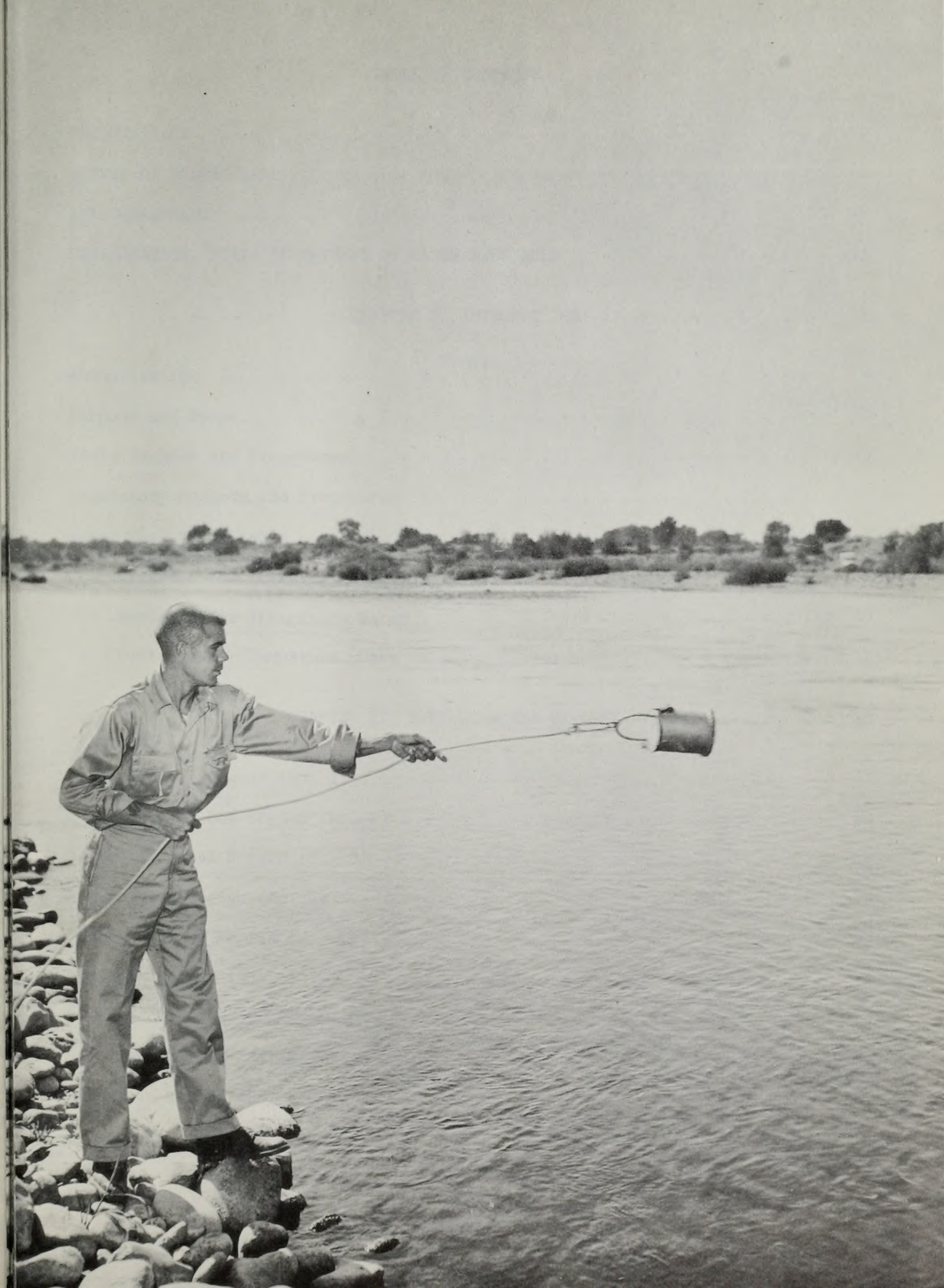

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STATE OF CALIFORNIA

# Department of Water Resources

SACRAMENTO

December 18, 1957

Honorable Goodwin J. Knight, Governor, and
Members of The Legislature of The
State of California

State Water Pollution Control Board

Gentlemen:

I have the honor to transmit herewith a report on the quality of surface waters in California. This is the second in a series of reports concerning this important matter.

In April, 1951, this Statewide Stream Sampling Program was initiated at the request of the State Water Pollution Control Board, and since that time has been conducted by the Department of Water Resources, as authorized by Section 229 of the Water Code in cooperation with the State Department of Public Health, Bureau of Sanitary Engineering, the State Department of Fish and Game, and with various other agencies and individuals. Its objective is to secure data on prevailing quality of water in the major streams and lakes of California. These data are utilized by the Department of Water Resources in conducting water resources development studies and implementing The California Water Plan, by the regional water pollution control boards in establishing waste discharge requirements for protection of surface waters in California and by other water service agencies throughout the State.

This report covers the period January, 1955 through December, 1956, and presents monthly analyses of water from 150 sampling points.

Very truly yours,

Harvey O. Banks

HARVEY O. BANKS
Director

ACKNOWLEDGMENT

The extensive coverage of the Statewide Stream Sampling Program is made possible through the cooperation of state, local and federal agencies. Through the coordinated efforts of these agencies, this sampling program encompasses the monthly collection of about 150 water samples throughout the state.

The helpful cooperation of the following agencies is gratfully acknowledged:

United States Corps of Engineers

United States Geological Survey

California Disaster Office, Radiological Services

State Department of Fish and Game

State Department of Public Health, Bureau of Sanitary Engineering

State Department of Public Health, Division of Laboratories

State Water Pollution Control Board

Los Angeles County Flood Control District

Ventura County, Department of Public Works

City of Los Angeles, Health Department

City of Los Angeles, Department of Water and Power

City of San Bernardino

City of San Francisco

City of Long Beach, Department of Public Health

Kern County Canal Company

Kings River Water Association

Metropolitan Water District of Southern California

Office of the Watermaster, Truckee and Carson Rivers

Truckee-Carson Irrigation District

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Isabel C. Nessler . . . . . Coordinator of Reports

NOTE: Pursuant to Chapter 52, Statutes of 1956, effective July 5, 1956, the Department of Water Resources succeeded to all of the functions, duties and responsibilities formerly assigned to the Division of Water Resources. The Division of Water Resources was organized as follows:

DIVISION OF WATER RESOURCES

Harvey O. Banks* . . . . . State Engineer

L. C. Jopson . . . . . Assistant State Engineer

Carl B. Meyer . . . . . Principal Hydraulic Engineer
Chief - Water Quality Function

Henry Holsinger . . . . . Principal Attorney

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# CHAPTER I INTRODUCTION

In California, as elsewhere, agricultural, industrial, and urban water uses contribute significant amounts of waste to surface and underground supplies. In some instances these wastes are harmful or potentially so as to the State's water resources. The early detection and control of water quality degradation is imperative if the fullest practicable beneficial uses are to be made of the available supplies.

In order to secure the data necessary to protect and monitor the quality of the State's surface water supplies, a continuing stream sampling program was initiated in April, 1951, at the request of the State Water Pollution Control Board. This program has since that time been conducted by the Department of Water Resources in cooperation with various agencies and individuals. A similar program to monitor the mineral quality of ground water in important basins throughout the State was begun in 1953.

The stream sampling program reported herein comprises the monthly collection of water samples from surface streams throughout the State. Monthly reports of mineral analyses of these samples are published by the Department of Water Resources following receipt of the analyses from the laboratories and distributed to cooperating and interested agencies.

This is the second of a series of reports presenting water quality data collected under this program for major streams and lakes of California and covers the period January, 1955, through December, 1956. These reports summarize the data published in the monthly reports and present a brief evaluation of the mineral characteristics of the sampled waters.

## Authorization

The stream sampling program reported herein is authorized by Section 229 of the Water Code. This section, as amended, directs that:

> "The Department of Water Resources shall investigate conditions of the quality of all waters within the State, including saline waters, coastal and inland, as related to all sources of pollution of whatever nature and shall report thereon to the Legislature and to the appropriate regional water pollution control board annually, and may recommend any steps which might be taken to improve or protect the quality of such waters."

## Purpose and Scope

The general objectives of the surface water sampling program are: (1) to secure information on present or prevailing quality of water in the major streams and lakes throughout the State of California; (2) to secure data useful for evaluating salt balance conditions; and (3) to provide a continual check on quality of water. These data provide a basis for determination of the water quality aspects of the California Water Plan and other water resources developments.

At present the program entails analyses of water samples collected at monthly intervals from 150 sampling stations located on 90 major California streams and lakes as shown on Plate 1. The ultimate objective of the program is to secure continuous and reliable water quality data at a network of sampling stations located so as to represent practically all of the surface drainage of California, both above and below present or potential sources of pollution or degradation. Water analyses made in connection with this program include mineral, radiological and bacterial tests.

This report presents a brief discussion and generalized appraisal of the mineral characteristics of surface water throughout the State. In the future, it is anticipated that subsequent reports will be greatly expanded to include a detailed appraisal of water quality characteristics for each stream from which water samples are obtained. This detailed appraisal will include: (1) a discussion of the mineral, radiological and bacterial characteristics; (2) enumeration and discussion of major waste discharges on each stream covered in the program; and (3) evaluation of significant changes in quality detected during the reporting period. Additional sampling stations will be added to the program as conditions dictate and time and availability of funds permit.

## Field Methods and Procedures

Agencies participating in the field sampling program are listed below together with the number of stations sampled monthly by each agency:

| Agency | Number of Stations Sampled |
|---|---|
| Department of Water Resources | 114 |
| Department of Public Health, Bureau of Sanitary Engineering | 24 |
| Department of Fish and Game | 1 |
| United States Corps of Engineers | 4 |
| Metropolitan Water District of Southern California | 2 |
| City of San Bernardino | 2 |
| City of Los Angeles, Department of Water and Power | 1 |
| City of Los Angeles, Health Department | 1 |
| City of Long Beach, Department of Public Health | 1 |
| TOTAL | 150 |

Water samples are collected each month for mineral analysis and bacterial examination. In addition, samples are collected twice a year for radiological assay. Samples obtained for bacterial examination are kept in the field in portable ice boxes while in transit to the laboratory for examination.

In addition to collecting the above described samples, sampling personnel make field determinations of dissolved oxygen (DO) by use of the Modified Winkler Method. Determination of water temperature and pH is also made at point of collection and physical conditions of the water from visual inspection are noted.

Nearly all of the sampling stations are situated at or near stream gaging stations and gage heights are recorded at the time the water samples are collected. Instantaneous stream discharges at the time of sample collection are subsequently obtained.

## Laboratory Methods and Procedures

Complete mineral analyses, including the determination of heavy metals and radiological assays are performed on samples collected usually in May and September, because it is during these spring and fall months that extremes in flow conditions usually occur. Partial mineral analyses of water samples collected in the remaining months are deemed sufficient to permit detection of any significant variation in mineral character of the water. Duplicate bacterial examinations are performed on samples collected monthly throughout the entire year.

Mineral analyses and determination of heavy metals are performed by the Water Quality Branch of the United States Geological Survey, and by

the Department of Water Resources laboratories located in Sacramento, San Bernardino, and Riverside. Radiological assays are performed by the California Disaster Office radiological laboratory in Sacramento, and bacterial examinations are made by the California Department of Public Health, Division of Laboratories, in Berkeley and Los Angeles.

The procedures used in radioassays of stream samples are described in the California Disaster Office communication shown in Appendix B.

Methods of mineral and bacterial analyses in general are those described in the American Public Health Association publication entitled "Standard Methods for the Examination of Water and Sewage" 10th Edition, 1955. In some cases, the methods described in the following publications also have been employed: (1) U. S. Geological Survey "Methods of Water Analysis", 1950. California Department of Public Works, Division of Water Resources, "Methods of Analysis", October, 1955.

The following tabulation indicates the constituent analyzed for in the various types of analyses performed in connection with this program.

| Constituent | Analyses | | | |
|---|---|---|---|---|
| | Complete mineral | Partial mineral | Bacterial | Radiological |
| Specific Conductance | X | X | | |
| pH | X | | | |
| Total Dissolved Solids | X | | | |
| Per Cent Sodium | X | X | | |
| Hardness | X | X | | |
| Turbidity | X | X | | |
| Coliform | | | X | |
| Temperature ** | X | X | | |
| Dissolved Oxygen ** | X | X | | |
| Calcium | X | X | | |
| Magnesium | X | X | | |
| Sodium | X | X | | |
| Potassium | X | X | | |
| Carbonate | X | X | | |
| Bicarbonate | X | X | | |
| Sulfate | X | | | |
| Chloride | X | X | | |
| Nitrate | X | | | |
| Fluoride | X | | | |
| Boron | X | X | | |
| Silica | X | | | |
| Phosphate* | X | | | |
| Zinc* | X | | | |
| Iron* | X | | | |
| Copper* | X | | | |
| Aluminum* | X | | | |
| Magnesium* | X | | | |
| Arsenic* | X | | | |
| Hexavalent Chromium* | X | | | |
| Lead* | X | | | |
| Dissolved Alpha | | | | X |
| Solid Alpha | | | | X |
| Dissolved Beta | | | | X |
| Solid Beta | | | | X |

* These constituents are normally designated as heavy metals.

** Field Determinations

## Water Quality Criteria

Criteria currently used by the Department of Water Resources to determine acceptability of water for the most common beneficial uses are described hereinafter. In general the values presented herein should be considered only as guides to judgment, and not as absolute limiting standards.

### Criteria for Drinking Water

Water that is used for drinking and culinary purposes must be clear, colorless, odorless, pleasant to the taste, and must not endanger the lives or health of human beings. These general requirements pertain to the water as it is finally delivered to the consumer.

Chapter 7 of the California Health and Safety Code contains laws and standards relating to domestic water supply. Section 4010.5 of this code refers to the drinking water standards promulgated by the United States Public Health Service for water used on interstate carriers. These criteria have been adopted by the State of California. They are set forth in detail in United States Public Health Report, Volume 61, No. 11, March 15, 1956.

According to Section 4.2 of the above-named report, chemical substances in drinking water supplies, either natural or treated, should not exceed the concentrations shown in Table I.

TABLE I

LIMITING CONCENTRATIONS OF MINERAL CONSTITUENTS

FOR DRINKING WATER

United States Public Health Service
Drinking Water Standards, 1946

| Constituent | Parts per million |
|---|---|
| Mandatory | |
| Fluoride (F) | 1.5 |
| Lead (Pb) | 0.1 |
| Selenium (Se) | 0.05 |
| Hexavalent Chromium | 0.05 |
| Arsenic (As) | 0.05 |
| Non-Mandatory but Recommended Values | |
| Iron (Fe) and Manganese (Mn) together | 0.3 |
| Magnesium (Mg) | 125 |
| Chloride (Cl) | 250 |
| Sulfate ($SO_4$) | 250 |
| Copper (Cu) | 3.0 |
| Zinc (Zn) | 15 |
| Phenolic Compounds in terms of Phenol | 0.001 |
| Total Solids, desirable | 500 |
| permitted | 1,000 |

The suspected relationship of infant methemoglobinemia occurrence to nitrates in the water supply has led to limitation of allowable nitrates in drinking water. The California State Department of Public Health has recommended a tentative limit of 10 ppm nitrate nitrogen (44 ppm nitrates) for domestic waters. Any water containing higher concentrations should be considered of questionable suitability for domestic and municipal use.

Limits may be established for other organic or mineral substances if their presence in water renders it hazardous, in the judgment of State or local health authorities.

An additional factor with which users are concerned is the hardness of the water. Hardness is due principally to carbonates and sulfates of calcium and magnesium, and is generally evidenced by inability to develop suds when using soap. In general domestic use, hardness can result in increased soap consumption, excessive repairs to plumbing, and the necessity or desirability of maintaining individual water softening appliances. The following classification for degree of hardness has been suggested by the United States Geological Survey.

| Class | Range of Hardness in ppm | |
|---|---|---|
| 1 | 0-55 | Soft |
| 2 | 56-100 | Slightly hard |
| 3 | 101-200 | Moderately hard |
| 4 | 201-500 | Very hard |

## Criteria for Irrigation Water

Because of the diverse climatological conditions, crops, soils, and irrigation practices in California, criteria which may be set up to establish the suitability of water for irrigation use must necessarily be of a general nature, and judgment must be used in their application to individual cases. Dr. L. D. Doneen, Professor of Irrigation at the University of California at Davis, a recognized authority on irrigation water quality, has suggested limiting values for total dissolved solids chloride concentration, per cent sodium and boron concentration for three general classes of irrigation water as shown in Table 2.

TABLE 2

QUALITATIVE CLASSIFICATION OF IRRIGATION WATERS

| | Class I | Class II | Class III |
|---|---|---|---|
| Chemical Properties | Excellent to good "Suitable under most conditions" | Good to injurious "Suitability dependent on soil, crops, climate and other factors" | Injurious to Unsatisfactory "Unsuitable under most conditions" |
| Total dissolved solids | | | |
| In ppm | Less than 700 | 700-2,000 | More than 2,000 |
| In conductance EC x $10^6$ | Less than 1,000 | 1,000-3,000 | More than 3,000 |
| Chloride ion concentration | | | |
| In milliequivalents per liter | Less than 5 | 5-10 | More than 10 |
| In ppm | Less than 175 | 175-350 | More than 350 |
| Sodium in per cent of base constituents | Less than 60 | 60-75 | More than 75 |
| Boron in ppm | Less than 0.5 | 0.5-2.0 | More than 2.0 |

Criteria for Industrial Uses

The water quality criteria for the diversified uses of water in industry range from the exacting requirements for make-up water for high pressure boilers to the minimum requirements for water for washdown and metallurgical processing.

Industrial uses of water also include water utilized for food processing purposes. It may be stated that with the exception of certain canning operations such waters should at least conform to the quality requirements previously cited for drinking water supplies. Some food processing industries are even more exacting in their water quality requirements than those set forth in the United States Public Health Service "Drinking Water Standards".

Because of the large number of industrial uses of water and widely varied quality requirements, it is practicable to establish only very broad criteria of quality. These variable conditions make it desirable to consider water quality requirements in broad and general terms only, and where possible, for groups of related industries rather than individually. The general quality requirements of several individual and major groups of water uses are listed in Table 3. The values shown in this table are those suggested in the Progress Report of the Committee on Quality Tolerance of Water for Industrial Uses in the Journal of the New England Water Works Association, Volume 54, 1940.

TABLE 3

WATER QUALITY TOLERANCE FOR INDUSTRIAL USES[a]

Allowable limits in parts per million

| Use | Turbidity | Color | Hardness as $CaCO_3$ | Iron as Fe[c] | Manganese as Mn | Total solids | Alkalinity as $CaCO_3$ | Odor taste | Hydrogen sulfide | Miscellaneous Requirements: Health | Miscellaneous Requirements: Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Air Conditioning | - | - | - | 0.5 | 0.5 | - | - | Low | 1 | - | No corrosiveness, slime formation. |
| Baking | 10 | 10 | | 0.2 | 0.2 | - | - | Low | 0.2 | Potable[b] | |
| Brewing | | | | | | | | | | | |
| Light beer | 10 | - | - | 0.1 | 0.1 | 500 | 75 | Low | 0.2 | Potable[b] | NaCl less than 275 ppm (pH 6.5-7.0). |
| Dark beer | 10 | - | - | 0.1 | 0.1 | 1,000 | 150 | Low | 0.2 | Potable[b] | NaCl less than 275 ppm (pH 7.0 or more). |
| Canning | | | | | | | | | | | |
| Legumes | 10 | - | 25-72 | 0.2 | 0.2 | - | - | Low | 1 | Potable[b] | |
| General | 10 | - | | 0.2 | 0.2 | - | - | Low | 1 | Potable[b] | |
| Carbonated beverages | 2 | 10 | 250 | 0.2 | 0.2 | 850 | 50-100 | Low | 0.2 | Potable[b] | Organic color plus oxygen consumed less than 10 ppm. |
| Confectionery | - | - | - | 0.2 | 0.2 | 100 | - | Low | 0.2 | Potable[b] | pH above 7.0 for hard candy. |
| Cooling | 50 | - | 50 | 0.5 | 0.5 | - | - | - | 5 | - | No corrosiveness, slime formation. |
| Food: General | 10 | - | - | 0.2 | 0.2 | - | - | Low | - | Potable[b] | |
| Ice | 5 | 5 | 50 | 0.2 | 0.2 | - | - | Low | - | Potable[b] | $SiO_2$ less than 10 ppm. |
| Laundering | - | - | 50 | 0.2 | 0.2 | - | - | - | - | - | |
| Plastics, clear, | | | | | | | | | | | |
| Uncolored | 2 | 2 | - | 0.2 | 0.2 | 200 | - | - | - | - | |
| Paper and pulp: | | | | | | | | | | | |
| Groundwood | 50 | 20 | 180 | 1.0 | 0.5 | - | - | - | - | - | No grit, corrosiveness. |
| Kraft pulp | 25 | 15 | 100 | 0.2 | 0.1 | 300 | - | - | - | - | |
| Soda and sulfide | 15 | 10 | 100 | 0.1 | 0.05 | 200 | - | - | - | - | |
| High-grade light papers | 5 | 5 | 50 | 0.1 | 0.05 | 200 | - | - | - | - | |
| Rayon (viscose): | | | | | | | | | | | |
| Pulp production | 5 | 5 | 8 | 0.05 | 0.03 | 100 | total 50; hydroxide 8 | - | - | - | $Al_2O_3$ less than 8 ppm, $SiO_2$ less than 25 ppm, Cu less than 5 ppm. |
| Manufacture | 0.3 | - | 55 | 0.0 | 0.0 | - | - | - | - | - | pH 7.8 to 8.3 |
| Tanning | 20 | 10-100 | 50-135 | 0.2 | 0.2 | - | total 135; hydroxide 8 | - | - | - | |
| Textiles: General | 5 | 20 | - | 0.25 | 0.25 | - | - | - | - | - | |
| Dyeing | 5 | 5-20 | - | 0.25 | 0.25 | 200 | - | - | - | - | Constant composition. Residual alumina less than 0.5 ppm. |
| Wool scouring | - | 70 | - | 1.0 | 1.0 | - | - | - | - | - | |
| Cotton bandage | 5 | 5 | - | 0.2 | 0.2 | - | - | Low | - | - | |

a-Moore, E. W., Progress Report of the Committee on Quality Tolerances of Water for Industrial Uses: Journal New England Water Works Association, Volume 54, Page 271, 1940.

b-Potable water, conforming to U.S.P.H.S. standards, is necessary.

c-Limit given applies to both iron alone and the sum of iron and manganese.

## CHAPTER II - SURFACE WATER QUALITY

In 1955 and 1956 the streams emanating from the Coast Ranges north of San Francisco and from the Sierra Nevadas contained waters of excellent quality, with total dissolved solids generally below 150 parts per million (ppm).

Streams draining the coastal areas extending southerly from San Francisco to the Mexican boundary, and those draining into the Colorado and Lahontan basins contained waters varying from good to poor quality with total dissolved solids ranging up to 1,000 ppm.

These streams as they pass from their mountain watersheds through the valley floor or coastal plain, receive irrigation return flow, ground water drainage, and waste water discharges, resulting in progressively greater concentration of salts with increasing distance from the mountains. In fact, during summer and early fall, flow in portions of many streams is comprised almost entirely of water from these sources.

Radiological assays of surface waters conducted as part of this program indicate no significant amounts of radioactivity other than normal background counts during this reporting period.

### North Coastal Region (No. 1)

Stream sampling stations in the North Coastal Region are presently located on the following streams: (1) Klamath River, (2) Smith River, (3) Trinity River, (4) Eel River, (5) South Fork Eel River, (6) Russian River, and (7) East Fork Russian River.

Surface waters in this region are generally of bicarbonate type with calcium and magnesium constituting the major cations. Mineral analyses of samples display but comparatively little variation in mineral constituents

with remarkably low concentrations of total dissolved solids, low per cent sodium, and are generally very soft. Under conditions of abundant rainfall, and sustained stream flow throughout the year, there is little opportunity for the wide variation in mineral concentration and composition which characterize the waters of most arid regions.

A study of water analyses reveals that, except for occurrence of relatively high concentrations of boron in the Russian River during summer months, the waters in the streams sampled are of excellent quality and well suited for most beneficial uses except that for domestic and municipal uses, some treatment and purification would be necessary.

The waters of the Eel River, especially samples obtained at the stations near McCann and Scotia during the summer months, show total hardness in the slightly to moderately hard classification.

As reported in Water Quality Investigations Report No. 15, "Quality of Surface Waters in California, 1951-1954", boron was detected in the Russian River at Healdsburg and was found to originate in waste from a dry-ice manufactu ing plant located between Hopland and Healdsburg. Upon further investigation by the North Coastal Regional Water Pollution Control Board and this Department, the source of this pollution was found to be a deep well supplying the dry-ice plant. During the period of investigation, the plant was discharging approximately 500 to 750 gallons per minute of waste water from this carbon dioxide well to the Russian River. Samples of this water contained from 404 to 690 ppm of boron as well as extremely high concentrations of other mineral constituents. For the period January, 1955 to January, 1956, boron content of the Russian River at Healdsburg, below the waste discharge, ranged from 0.11 to 4.3 ppm. Operation of the plant was halted in July, 1956. The quality of water in the Russian River at Healdsburg will be observed to determine whether this plant shut-down will alleviate the boron problem.

No other significant trends in mineral composition or concentration of surface waters in the North Coastal Region are evidenced in analyses obtained during the course of this program. Seasonal variations in water quality are shown graphically on Plates 2 through 5 for selected streams within the region. Sampling station data for this region are shown in Table 1 of Appendix A and analyses in Tables 10 and 19 of this appendix.

## San Francisco Bay Region (No. 2)

Surface water samples are presently collected from the following San Francisco Bay Region streams: (1) Napa River, (2) Alameda Creek, (3) Los Gatos Creek, (4) Coyote Creek.

Surface runoff of the San Francisco Bay Region is generally of good to excellent mineral quality and suitable for domestic, agricultural, and industrial uses with exception of the tidewater reaches. The waters of the region are principally of the bicarbonate type, and the dominant base is either calcium, magnesium or sodium, dependent upon mineral composition of the rock formations in the drainage basin.

Analyses of samples show the waters to be slightly to moderately hard. Although waters of the region are suitable for most uses; samples collected from Alameda Creek near Niles contained concentrations of total dissolved solids near the upper limit for Class I irrigation water while boron concentration has been noted as high as 1.8 ppm. A few of the smaller streams including those tributary to Napa River and Coyote Creek, occasionally have boron content near the upper safe limit for boron sensitive plants.

Mineral concentration of waters at Alameda Creek near Niles shows a gradual increase through the summer months of 1955, and a subsequent decrease from that time through the summer of 1956. During December, 1955, and January, 1956, these waters showed a marked decrease in total dissolved solids, chlorides, and total hardness. Insufficient data are available to predict with any degree of certainty whether this is a cyclic phenomenon or whether it is due to the flushing action of flood runoff waters. Seasonal variations in water quality are shown graphically on Plate 6 for Alameda Creek near Niles.

Sampling station and analyses data are presented in Tables 2, 11 and 20 of Appendix A.

## Central Coastal Region (No. 3)

Samples are collected from the following Central Coastal Region streams: (1) Salinas River, (2) Santa Ynez River, (3) San Lorenzo River, (4) Soquel Creek, (5) Pajaro River, (6) Carmel River, (7) Uvas Creek.

Surface waters in the coastal drainage from the Santa Lucia and Gabilan Ranges and from Santa Ynez, San Rafael, and Santa Cruz Mountains are generally of good quality, with low total dissolved solids, per cent sodium, and boron. Total hardness of these waters is low and generally suitable for most household uses. The coastal streams are uniformly calcium-magnesium bicarbonate type waters. Many streams draining interior basins are high in sulfate and have relatively high total dissolved solids. They usually contain significant amounts of boron, probably originating from juvenile waters rising along faults.

During periods of flood runoff, the waters in most streams of this region are of good mineral quality and suitable for all but the most exacting uses. However, the periods of low flow water in many of the major streams

consist largely of return irrigation waters and mineralized ground water drainage. During these low flow periods mineral concentrations approach maximum limits of usability.

Surface inflow to the Salinas River Basin from Santa Lucia Range, and from the part of its drainage area above the mouth of Nacimiento River, is generally low in total dissolved solids, boron, and per cent sodium, and is a bicarbonate type water.

Water from the Santa Maria River near Santa Maria shows higher calcium sulfate than inflow from Sisquoc River, and the latter is lower in total dissolved solids than flow of either Cuyama or Santa Maria Rivers. Except during brief periods of flood flow the mineral content of the Cuyama and Santa Maria Rivers approaches the upper limit of Class I irrigation water.

In addition to seasonal fluctuations in mineral concentrations, some general trend toward greater mineral concentration in certain streams of the Central Coastal Region have been evidenced in analyses performed under this program. In contrast to this, samples collected from Pajaro River near Chittenden show a gradual build up of total dissolved solids and increase in chloride concentration through the summer of 1954, a slight decrease in the summer of 1955, and a sharp decline between December, 1955, and January, 1956. Here as elsewhere this latter decline as well as the notably lower mineral concentrations during the subsequent summer may be attributed to the unusually high flood flows during December, 1955, and January, 1956. The aforementioned increase and subsequent decrease in mineral concentration in samples from Pajaro River near Chittenden is illustrated on Plate 7. As may be seen there is a marked decrease in concentration of mineral solubles with increased flow during the winter runoff months.

Sampling station and analyses data are presented in Tables 3, 12 and 21 of Appendix A.

## Los Angeles Region (No. 4)

Stream sampling stations in the Los Angeles Region are presently located on the following streams: (1) Matilija Creek, (2) Ventura River, (3) Santa Clara River, (4) Los Angeles River, (5) Rio Hondo, (6) Mission Creek, (7) San Gabriel River, (8) Metropolitan Water District Aqueduct at La Verne, and (9) Mono-Owens Aqueduct at San Fernando Reservoir.

Surface waters in this region vary widely in character according to location. Quality is generally better in most streams during periods of high flow than during periods of low flow. Since annual runoff during the reporting period was considerably less than the long time mean values for most of the natural streams in the Los Angeles Region, the general water quality was below normal.

The Los Angeles River in its lower reaches serves as a drainage channel through the Los Angeles Metropolitan Area. The flows monitored, particularly at Station No. 48, (Los Angeles River at Long Beach) include varying quantities of wastes which have a pronounced effect upon water quality. An illustration of the wide range in mineral concentration of water sampled at this station during the reporting period may be seen in Table 13 were chloride concentration varied between 172 parts per million in February, 1955, and 8275 parts per million in May, 1956.

The San Gabriel River at Azusa contains varying amounts of Colorado River water released from Morris Reservoir. Colorado River water has also periodically been released from Puddingstone Reservoir for spreading in the Los Angeles Forebay and has been sampled at the Whittier Narrows Station on the San Gabriel River. Therefore analyses at this station are not indicative of the native water. It is contemplated that the San Gabriel River station at Azusa will be moved upstream above the reach affected by imported water.

Waters of Matilija Creek show a fluctuation of boron from 0.6 to 4.3 ppm. Additional samples are presently being collected within the Ventura River System in cooperation with Ventura County to determine the magnitude and extent of the boron problem.

Santa Clara River water is poor quality, has a high sulfate content, and is extremely hard. This river system also includes waters containing significant quantities of boron. The water in Santa Clara River at the Santa Paula Station is of better quality than the water at the Los Angeles-Ventura County line station. This improvement in quality is attributed to the effect of better quality tributary inflow from Sespe and Piru Creeks. Inclusion in the monitoring program of sampling stations on these two tributaries is being considered. Seasonal variations in water quality are shown graphically on Plate 8 for the Santa Clara River at Los Angeles-Ventura County Line.

Sampling station data for this region are shown in Table 4, and analyses for these stations in Table 13 and 22 of Appendix A.

The tremendous urban and industrial development taking place within this region and the associated increase in waste disposal problems necessitate the addition of other stations to provide essential data for control of pollution and contamination of the surface and ground waters.

## Central Valley Region (No. 5)

Because of the great size of the Central Valley Region and the wide variance in mineral characteristics and concentration of the surface water supplies, more sampling stations are located in this region than in any other. The streams, lakes, and other water supplies sampled under this program in the Central Valley Region are listed hereunder as follows:

Sacramento River
Cottonwood Creek
Stony Creek
Sacramento Slough
Calaveras River
Pit River
Burney Creek
Indian Creek
McCloud River
Feather River
Yuba River
American River
Mokelumme River
San Joaquin River
Stanislaus River
Tuolumne River
Merced River
Kings River
Kaweah River
Kern River
Clear Lake
Cache Creek
Bear River
North Fork Cache Creek
Putah Creek
Butte Creek
Big Chico Creek
Colusa Trough
Mill Creek
South Honcut Creek
Tule River
Delta-Mendota Canal
Consumnes River
Deer Creek
Delta-Cross Channel
Little Potato Slough
Stockton Ship Channel
Old River
Italian Slough
Indian Slough
Rock Slough
Lindsey Slough
Bear Creek

The concentration of mineral solubles in surface streams varies widely with stream regimen. There is a gradual increase in mineral content during the course of flow from the foothills across the valley floor. It may be generalized that concentration of salts is usually lower in the northern and northeastern portions of the Central Valley Region than in the southern and southwestern portion, owing to dilution from more abundant rainfall and run-off, and because soluble salts have been leached from the alluvium in past geological time.

From point of view of mineral characteristics, surface water of the Central Valley Region may be divided geographically into "east side", "west side", and "axial".

Waters in streams that flow from the Sierra Nevada are generally of excellent mineral quality at the eastern edge of the valley floor, and suitable from that standpoint for most purposes without treatment. Water in streams from the Cascade and Klamath Mountains, tributary to the

Sacramento Basin in the north, is of similar high quality. All of the aforementioned waters are in the "east side" quality classification and are uniformly calcium bicarbonate in type. Total mineral solids in these waters is generally less than 100 parts per million.

Included in the "west side" quality classification are those waters of all streams draining the coastal ranges north to Stony Creek, and from the San Emigdio and Tehachapi Mountains at the southern end of San Joaquin Valley. The largest of these streams are Cache and Putah Creeks. Average concentration of salts in these two streams is three to four times that which occurs in the "east side" streams. Much higher concentrations of mineral solubles, ranging from about 250 to 3800 ppm are contained in the water of "west side" streams flowing into San Joaquin River. The most important of these are San Luis, Los Banos, Little Panoche, Cantua, and Los Gatos Creeks. The combined flows of these streams are small, but they contain relatively high amounts of dissolved mineral matter, including up to 17 ppm of boron. These waters are either chloride or sulfate in type, in contrast with the uniformly bicarbonate "east side" waters.

A mixture of "east side" and "west side" waters plus return irrigation and effluent ground water seepage comprise the surface waters of the valley trough. This classification is herein termed "axial" waters. Surface inflow from east side tributaries is generally so large that the effect of the poorer quality "west side" waters is obscured in the mixture. However, the effect of ground water effluent seepage, primarily irrigation return, is noticeable much of the time in San Joaquin River between Mendota Pool and the Sancramento-San Joaquin Delta. During periods of relatively low flow, chloride and sulfate content is generally greater than bicarbonate content in the reach of the San Joaquin River between Mendota Pool and the confluence of Sacramento River.

The Sacramento River, the largest watercourse in the state, falls in the "axial" group. At the Sacramento sampling station, the waters show a remarkably uniform quality pattern from year to year. Total dissolved solids generally range below 175 parts per million in waters sampled at this station and hardness is generally below 90 ppm. Concentration of mineral solubles were greatly reduced during the summer of 1956, perhaps as a result of extremely high flows during December, 1955, and January, 1956.

Streams in areas of the San Joaquin Valley, where water supplies are more fully developed, show a continuing trend toward greater mineralization. Although the increase, in many cases, is slight, the trend is apparent and probably will continue until imported waters are available to provide sufficient dilution to carry off the increasing amounts of return irrigation flows and municipal and industrial wastes or a waste conveyance system is provided.

Sampling station and analyses for this region are listed in Tables 5, 14, and 23 of Appendix A. Fluctuations in quality characteristics for the major streams are shown graphically on Plates 10 through 15.

## Lahontan Region (No. 6)

Samples are collected and analyses reported herein for Lake Tahoe and the following streams: (1) Susan River, (2) Truckee River, and (3) Mojave River.

The surface waters draining the eastern slopes of the Warner Range and the Sierra Nevadas are of excellent mineral quality and well suited for general use, as are the waters draining the north slopes of the San Gabriel and San Bernardino Mountains. These mountains, composed largely of granitic materials, contribute only slight quantities of mineral solubles. Surface water from the Owens River watershed are calcium bicarbonate in type as are the waters of the Mojave River. These waters have similar characteristics

except that those of Mohave River have a somewhat greater total hardness and lower boron content. The higher boron content of Owens River is due largely to mineralized hot spring waters flowing in from Hot Creek. These spring waters contain 10 or more parts per million of boron.

The waters of the monitored streams in the Lahontan Region are of excellent mineral quality and from a standpoint of irrigation are all class I waters; although waters sampled from Mojave River near Victorville are slightly hard. No significant trend toward greater mineral concentration is noticeable.

Sampling station and analyses data for this region are presented in Tables 6, 15 and 24 of Appendix A. A graphical representation of water quality characteristics of the Truckee River near Farad is shown on Plate 16.

## Colorado River Basin Region (No. 7)

Sampling stations in the Colorado River Basin Region are presently located on the following water courses: (1) Colorado River, (2) All American Canal, (3) New River, (4) Alamo River, and (5) Whitewater River.

Throughout this region, rainfall is sparse, and the occasional heavy rains often result in flash floods. These floods generally have high instantaneous discharges but are of short duration. The runoff is usually of good quality. Except for the Colorado River, natural suface streams in the region are usually dry throughout most of the year.

Water flowing in the All American Canal is diverted from the Colorado River. It is sodium-calcium sulfate in character and is Class II irrigation water. The New and Alamo Rivers, which enter the United States from Mexico, are made up, in large part, of irrigation return flows and

canal spills from the All American Canal and distribution canals of the Imperial Irrigation District. Water in these two rivers is usually sodium chloride in character and Class III irrigation water. At the International Boundary, the New River poses a serious quality problem because of the industrial wastes and raw sewage discharges from the City of Mexicali. At New River near Calexico, (station No. 57), bacterial counts have reached 30 million MPN (most probable number per milliliter).

The Whitewater River is calcium bicarbonate in character and meets the mineral quality criteria for Class I irrigation water. Water is diverted from the Whitewater River one and one-half miles upstream from Whitewater and piped to Palm Springs for non-domestic use.

Because of the stability of the character and mineral content of these waters, consideration is being given to placing these stations on a bi-monthly sampling schedule. Sampling station and analyses data for this region are given in Tables 7, 16 and 25 of Appendix A.

## Santa Ana Region (No. 8)

Sampling stations in the Santa Ana Region are presently located at Lake Elsinore and on the following streams: (1) Santa Ana River, (2) Warm Creek, and (3) Chino Creek.

In this region, mineral quality of surface runoff varies with flow, being noticeably better during periods of high flow. Accordingly, it should be observed that runoff during the reporting period was less than 50 per cent of the long time mean runoff.

At several of the stream sampling stations within this region, analyses showed great variation in characteristics. This variation particularly notable in analyses from the Prado and Arlington stations on

the Santa Ana River, is due to the mixing of imported Colorado River water with the natural flow of the Santa Ana River. In the natural waters, bicarbonate is the predominant anion but in the mixed waters sulfate is the predominant anion. Both the natural and mixed waters are of good quality for irrigation use and fall within the standards for Class I or Class II. Despite the hardness of these waters, they are suitable for domestic use. Water in the Santa Ana River near Mentone is soft and of excellent mineral quality. It is calcium bicarbonate in character and has its origin in precipitation on the San Bernardino Mountain areas, where man's activity has not as yet resulted in noticeable impairment of water quality.

Warm Creek channel carries natural surface runoff, rising ground water, and treated effluent from the San Bernardino sewage treatment plant. The creek is tributary to Santa Ana River but virtually all of the low flows are diverted into the Riverside Canal for irrigation use. The Warm Creek station at Colton, No. 50b, serves to monitor the effect of sewage discharge into Warm Creek. The second Warm Creek station, No. 50c, at San Bernardino monitors the natural flow of the creek. During periods of low flow, most of the flow at this station is diverted for irrigation purposes into the Meeks and Daley Canal. Natural Warm Creek water is calcium bicarbonate in character, hard, and Class I for irrigation. The San Bernardino sewage effluent is sodium bicarbonate in character, hard, and Class I for irrigation.

Chino Creek is tributary to the Santa Ana River just above Prado Dam. The flow in this creek consists mainly of Chino sewage plant effluent, except when there is sufficient rain to cause runoff. This effluent is normally calcium bicarbonate in character, hard, and of good mineral quality.

Lake Elsinore has been dry most of the time since 1952. There was sufficient water to sample at only one time during the period of this report. This was in February, 1956, when the total dissolved solids content was 10,500 ppm. The lake water, when it can be sampled is usually sodium chloride in character and moderately hard.

Continued urban and industrial growth in this region requires full development, conservation, and protection of local water supplies. Therefore, continued monitoring of these surface waters at existing stations is important, and consideration is being given to the establishment of additional stations on the San Jacinto River.

Sampling station data and analyses for this region are shown in Tables 8, 17 and 26, of the Appendix A. A quality characteristics graph for the Santa Ana River near Mentone is presented on Plate 17.

## San Diego Region (No. 9)

Sampling stations in the San Diego Region are presently located on the following streams: (1) Santa Margarita River, (2) San Luis Rey River, (3) Escondido Creek, (4) San Dieguito River, (5) San Diego River, and (6) Tia Juana River.

Drought conditions which have prevailed throughout southern California for the past decade have been severe in the San Diego area. The effect of subnormal precipitation and runoff in San Diego County is manifest in the surface water storage which averaged approximately 15 per cent of the total reservoir capacity during 1955 and 1956, in spite of the importation of 269,648 acre-feet of Colorado River water during the period. These severe drought conditions are reflected in the monitoring program by lack of sufficient flow to sample and by high mineral concentration in low flows sampled.

Throughout most of this region, the surface waters are sodium chloride in character; however, the waters of San Luis Rey River near Pala and San Dieguito River near San Pasqual Valley are calcium to sodium bicarbonate in character.

The Santa Margarita River near Fallbrook displays relatively little variation in mineral quality and is normally Class II irrigation water, occasionally becoming Class I during high flows. This water is sodium bicarbonate-chloride in character and is very hard. Santa Margarita River flows the entire year at this station, but the discharge is very small during the summer months.

The Pala Station on San Luis Rey River is located about 25 miles inland from the coast. Water in the river at this station is of good quality but hard.

The dry weather flow of Escondido Creek consists mainly of effluent from the Escondido sewage plant. The Creek at the sampling point is normally dry during the summer months, since the sewage effluent is used to irrigate permanent pasture upstream. This water is variable in quality, reflecting the effect of both sewage treatment plant effluent and waste discharges from a stone quarry. Quarry cooling water with cutting waste enters Escondido Creek just above the station during periods when the quarry is in operation. At a point 200 yards downstream from the station a small earth dam is usually built after spring rains. This dam backs up water beyond the station and influences the water quality. The water sampled from Escondido Creek near Harmony Grove (Station No. 63) is hard and is generally class III irrigation water.

The sampling station on the San Dieguito River is located below San Pasqual Valley and just upstream from the San Diego Aqueduct crossing.

Because of its location and the drought conditions extant during the reporting period, there has been no flow at this station most of the time. Past analyses show this water to be Class I for irrigation and hard.

The San Diego River, sampled just below Old Mission Dam, normally flows after a heavy rain. The remainder of the time, water is ponded above and below the dam, and samples are taken from the downstream pond. Analyses show this water to be sodium chloride in character, very hard and Class I to Class III irrigation water, depending on flow.

Runoff in the Tia Juana River is controlled in Rodriguez Reservoir in Mexico. During the reporting period, the only surface flow at the station near the international boundary was tributary runoff from the area below Rodriguez Dam. Development of ground water from the upper Tia Juana Valley in Mexico by the City of Tia Juana has caused further depletion of the surface flow in the river. Runoff at Station No. 66 (Tia Juana River at International Boundary) is sodium chloride in character, very hard and ranges from Class I to Class III for irrigation depending upon flow. Flows often contain trash and domestic wastes from sections of the City of Tia Juana constructed along and in the river channel.

Rapid urban and industrial development of San Diego County has taxed the available water supply to the limit and plans are under preparation to provide for importation of additional water. Protection of the quality of local water supplies is therefore important, and emphasizes the need for continuation of the monitoring program in this region. However, since mineral quality has been consistent and flows generally small, consideration is being given to placing the program on a bi-montly basis in this region.

Sampling station data and analyses for this region are shown in Tables 9, 18 and 27, Appendix A. The mineral characteristics of Santa Margarita River near Fallbrook are presented on Plate 18.

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NORTH COA

1 Klamath Riv
2 Klamath Ri
3 Klamath Ri
3a Smith River
4 Trinity Rive
4a Trinity Rive
5 Eel River n
6 Eel River at
7 Eel River, S
8 Russian Riv
Calpella
8a Russian Riv
9 Russian Riv
0 Russian Riv
0a Russian Riv
Valley Po
0b Russian Riv

SAN FRANCISC

2 Napa River
3 Alameda Cre
4 Los Gatos C
2 Coyote Creel

CENTRAL COA

3 Salinas Rive
3a Salinas Rive
4 Santa Ynez
5 Santa Ynez
Canyon
5a Santa Ynez
5 San Lorenzo
Fenton)
6 Soquel Creel
7 Pajaro Rive
8 Carmel Rive
6 Uvas Creek

LOS ANGEL

5b Matilija Cre
6 Santa Clara
Ventura C
6a Santa Clara
6b Santa Clara
Los Angeles
6 Los Angeles
0 Rio Hondo
0a Mission Cre
0 San Gabriel
0a San Gabriel
Ventura Riv
Metropolita
at La Ver
Mono-Owen
Fernando

CENTRAL VA

0 Sacramento
Sacramento
a Sacramento
b Cottonwood
Sacramento

Because of its location and the drought conditions extant during the reporting period, there has been no flow at this station most of the time. Past analyses show this water to be Class I for irrigation and hard.

The San Diego River, sampled just below Old Mission Dam, normally flows after a heavy rain. The remainder of the time, water is ponded above and below the dam, and samples are taken from the downstream pond. Analyses show this water to be sodium chloride in character, very hard and Class I to Class III irrigation water, depending on flow.

Runoff in the Tia Juana River is controlled in Rodriguez Reservoir in Mexico. During the reporting period, the only surface flow at the station near the international boundary was tributary runoff from the area below Rodriguez Dam. Development of ground water from the upper Tia Juana Valley in Mexico by the City of Tia Juana has caused further depletion of the surface flow in the river. Runoff at Station No. 66 (Tia Juana River at International Boundary) is sodium chloride in character, very hard and ranges from Class I to Class III for irrigation depending upon flow. Flows often contain trash and domestic wastes from sections of the City of Tia Juana constructed along and in the river channel.

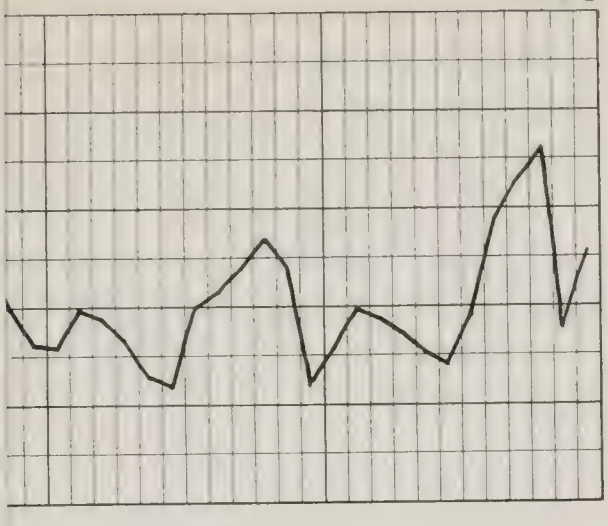
Rapid urban and industrial development of San Diego County has taxed the available water supply to the limit and plans are under preparation to provide for importation of additional water. Protection of the quality of local water supplies is therefore important, and emphasizes the need for continuation of the monitoring program in this region. However, since mineral quality has been consistent and flows generally small, consideration is being given to placing the program on a bi-montly basis in this region.

Sampling station data and analyses for this region are shown in Tables 9, 18 and 27, Appendix A. The mineral characteristics of Santa Margarita River near Fallbrook are presented on Plate 18.

# STREAM SAMPLING STATIONS
# SURFACE WATER QUALITY MONITORING PROGRAM

| Station Number | Stream |
|---|---|
| | **NORTH COASTAL REGION (No. 1)** |
| 1 | Klamath River near Copco |
| 2 | Klamath River at Somesbar |
| 3 | Klamath River near Klamath |
| 4 | Smith River near Crescent City |
| 4 | Trinity River near Hoopa |
| 4a | Trinity River at Lewiston |
| 5 | Eel River near McCann |
| 6 | Eel River at Scotia |
| 7 | Eel River, South Fork near Miranda |
| 8 | Eel River, East Fork near [illegible] |
| 8a | Eel River near Hopland |
| 9 | Russian River near Healdsburg |
| 9b | Russian River at Guerneville |
| 9b | Russian River, East Fork at Potter Valley Power House |
| 10 | Russian River near Ukiah |
| | **SAN FRANCISCO BAY REGION (No. 2)** |
| 72 | Napa River near St. Helena |
| 73 | Alameda Creek near Niles |
| 74 | Los Gatos Creek at Los [illegible] |
| 75 | Coyote Creek near Madrone |
| | **CENTRAL COASTAL REGION (No. 3)** |
| 43 | Salinas River near Spreckels |
| 43 | Salinas River at Paso Robles |
| 44 | Santa Ynez River below Gibraltar Dam |
| 45 | Santa Ynez River below Los Laureles Canyon |
| 45 | Santa Ynez River at Solvang |
| 7 | San Lorenzo River at Big Trees (near Fenton) |
| 76 | Soquel Creek at Soquel |
| 77 | Pajaro River near Chittenden |
| 78 | Carmel River near Carmel |
| 79 | Chalus Creek near Morgan Hill |
| | **LOS ANGELES REGION (No. 4)** |
| 45 | Malibu Creek above Malibu Dam |
| 46 | [illegible] River at Los Angeles-Ventura County Line |
| 46 | Santa Clara River near Santa Paula |
| 46b | Santa Clara River at Blue Cut |
| 47 | Los Angeles River at Los Angeles |
| 48 | Los Angeles River at Long Beach |
| 48 | Rio Hondo at Whittier Narrows |
| 48a | Mission Creek at Whittier Narrows |
| 50 | San Gabriel at Whittier Narrows |
| 50a | San Gabriel River near Azusa |
| 61 | Ventura River near Ventura |
| 69 | Metropolitan Water District Aqueduct at La Verne |
| 70 | Moon-Owens Aqueduct near San Fernando |
| | **CENTRAL VALLEY REGION (No. 5)** |
| 11 | Sacramento River at Delta |
| 12 | Sacramento River at Keswick |
| 12a | Sacramento River near Redding |
| 13 | Cottonwood Creek near Cottonwood |
| 13 | Sacramento River near Hamilton City |
| 13a | Stony Creek near Hamilton City |
| 14 | Sacramento River at Knights Landing |
| 14a | Sacramento Slough near Knights Landing |
| 1 | Sacramento River at Sacramento |
| 1 | Sacramento River at Rio Vista |
| 36 | Calaveras River near Jenny Lind |
| 37 | Pit River near Montgomery Creek |
| 37 | Pit River near Canby |
| 1 | Burney Creek near Burney |
| 37d | Indian Creek near Crescent Mills |
| 18 | McCloud River above Shasta Lake |
| 19 | Feather River near Oroville |
| 20 | Feather River at Nicolaus |
| 21 | Yuba River at Marysville |
| 21a | Yuba River near Smartville |
| 22 | American River at Sacramento |
| 23 | Mokelumne River at Woodbridge |
| 23b | Mokelumne River near Lancha Plana |
| 24 | San Joaquin River at Friant |
| 25 | San Joaquin River near Mendota |
| 25a | San Joaquin River near Dos Palos |
| 26 | San Joaquin River near Grayson |
| 26a | San Joaquin River at Maze Road Bridge |
| 27 | San Joaquin River near Vernalis |
| 28 | San Joaquin River at Antioch |
| 29 | Stanislaus River near Mouth |
| 29a | Stanislaus River near Knights Ferry |
| 30 | Tuolumne River at Hickman Waterford Bridge |
| 31 | Tuolumne River at Tuolumne City |
| 31a | Tuolumne River below Don Pedro Dam |
| 31b | Tuolumne River at La Grange |
| 32 | Merced River near Stevinson |
| 32a | Merced River below Exchequer Dam |
| 33 | Kings River above North Fork |
| 34a | Kings River at Piedra |
| 34b | Kings River below Pine Flat Dam |
| 34c | Kings River below North Fork |
| 34 | Kings River below Peoples Weir (near Kingsburg) |
| 35 | Kaweah River near Three Rivers |
| | Kern River near Bakersfield |
| 36a | Kern River below Isabella Dam |
| 36b | Kern River near Kernville |
| 40 | Clear Lake near Clearlake Oaks |
| 41 | Clear Lake at Lakeport |
| 42 | Cache Creek near Lower Lake |
| 78 | Bear River near Wheatland |
| 79 | Cache Creek, North Fork near Lower Lake |
| 80 | Cache Creek near Capay |
| 81 | Putah Creek near Winters |
| 84 | Butte Creek near Chico |
| 85 | Big Chico Creek near Chico |
| 87 | Colusa Trough near Colusa |
| 88 | Mill Creek near Los Molinos |
| 90 | Honcut Creek, South, near Bangor |
| 91 | Tule River near Porterville |
| 92 | Delta Mendota Canal near Mendota |
| 93 | Delta Mendota Canal near Tracy |
| 94 | Cosumnes River near Michigan Bar |
| 95 | Deer Creek near Vina |
| 97 | Sacramento River at Snodgrass Slough |
| 98 | Delta Cross Channel near Walnut Grove |
| 99 | Little Potato Slough at Terminous |
| 100 | Stockton Ship Channel on Rindge Island |
| 101 | San Joaquin River at Garwood Bridge |
| 102 | San Joaquin River at Mossdale Bridge |
| 103 | Old River near Tracy |
| 104 | Old River at Clifton Court Ferry |
| 106 | Italian Slough near Mouth |
| 107 | Indian Slough near Brentwood |
| 108 | Old River at Orwood Bridge |
| 109 | Rock Slough near Knightsen |
| 110 | Lindsey Slough near Rio Vista |
| 111 | Bear Creek near Stevinson |
| 112 | Old River at Mandeville Island |
| | **LAHONTAN REGION (No. 6)** |
| 17b | Susan River at Susanville |
| | Lake Tahoe at Tahoe Vista |
| | Lake Tahoe at Tahoe City |
| | Lake Tahoe at Bijou |
| | Truckee River near Truckee |
| | Truckee River near Farad |
| 17 | Mojave River near Victorville |
| | **COLORADO RIVER BASIN REGION (No. 7)** |
| 74 | Colorado River at Topock, Arizona |
| | Colorado River at Parker Dam |
| | Colorado River at Yuma, Arizona |
| | All American Canal near Pilot Knob |
| | Colorado River below Martinez Dam |
| | Colorado River near Blythe |
| | Lake Havasu at Metropolitan Water District Intake |
| | New River at International Boundary |
| | New River near Westmoreland |
| | Alamo River at International Boundary |
| | Alamo River near Calipatria |
| | Whitewater River at Whitewater |
| | **SANTA ANA REGION (No. 8)** |
| | Warm Creek at Colton |
| | Warm Creek at San Bernardino |
| | Santa Ana River near Arlington |
| 51a | Santa Ana River near Prado Dam |
| | Santa Ana River near Mentone |
| 51d | Santa Ana River at Riverside (MWD Blowoff) |
| 51e | Santa Ana River at Norco |
| | Chino Creek near Chino |
| | Lake Elsinore at North Shore |
| | **SAN DIEGO REGION (No. 9)** |
| 51c | Santa Margarita River near Fallbrook |
| 52 | San Luis Rey River near Pala |
| | Escondido Creek near Harmony Grove |
| 64 | San Dieguito River below San Pasqual Valley |
| 65 | San Diego River at Old Mission Dam |
| 66 | Tia Juana River at International Boundary |

PLATE 2



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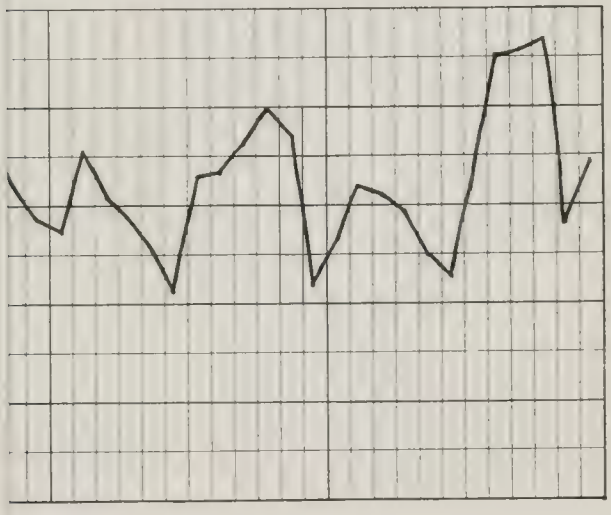
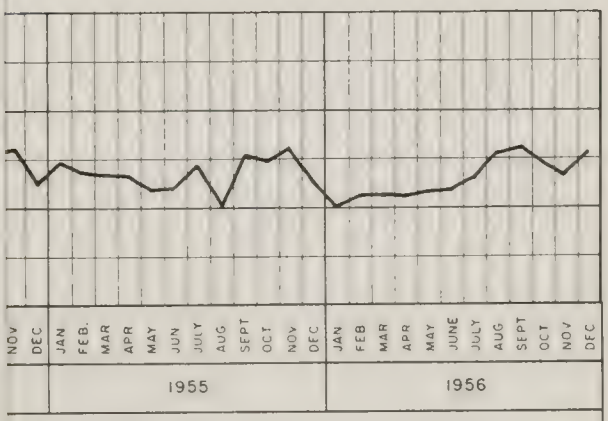


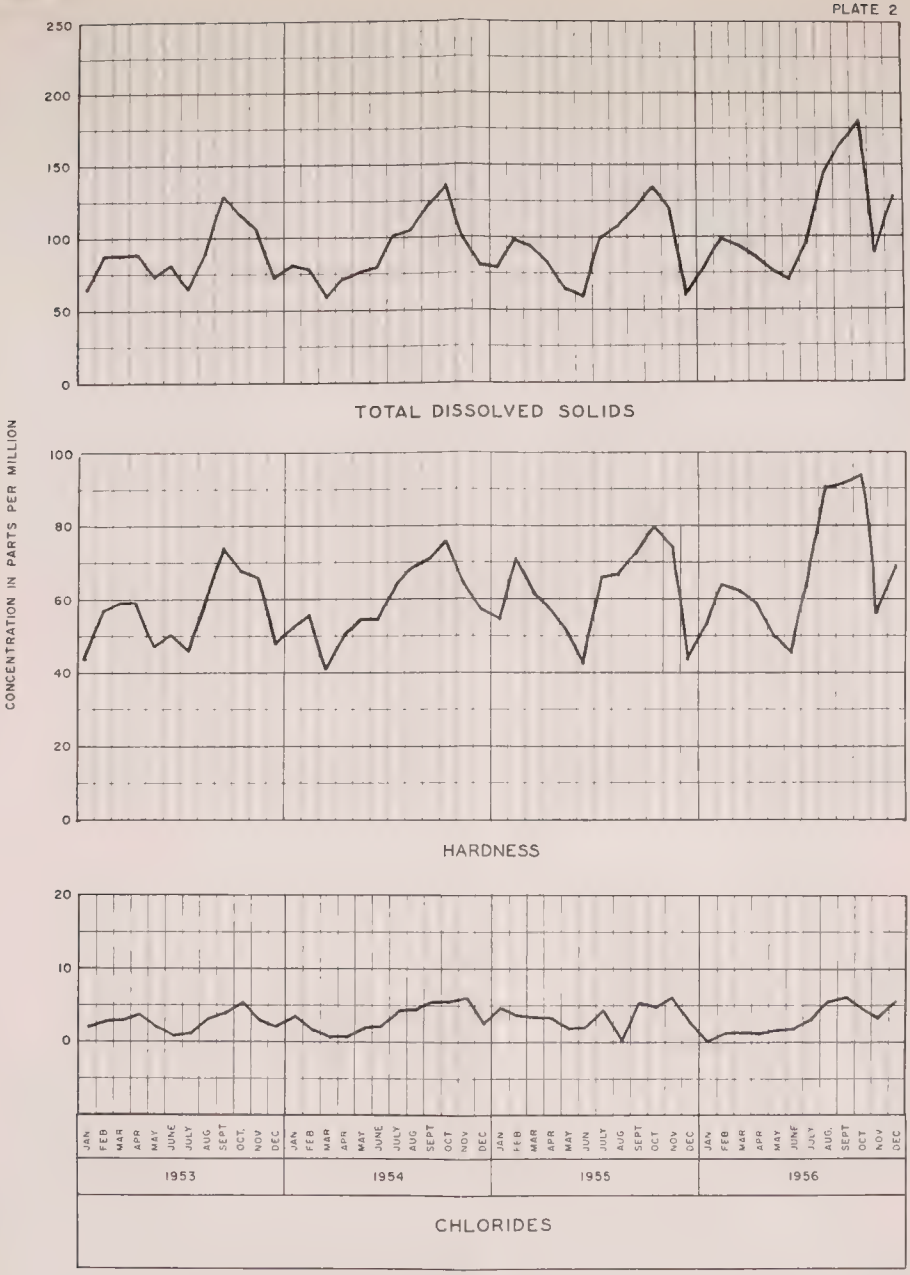
ARDNESS




LORIDES

HARACTERISTICS
OF
ER NEAR KLAMATH
TION NO. 3

PLATE 2




QUALITY CHARACTERISTICS

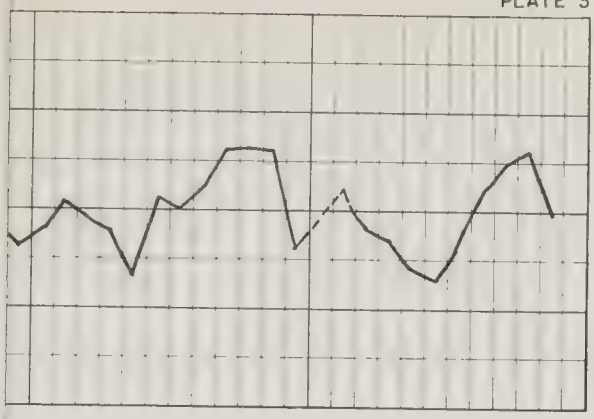
OF

KLAMATH RIVER NEAR KLAMATH

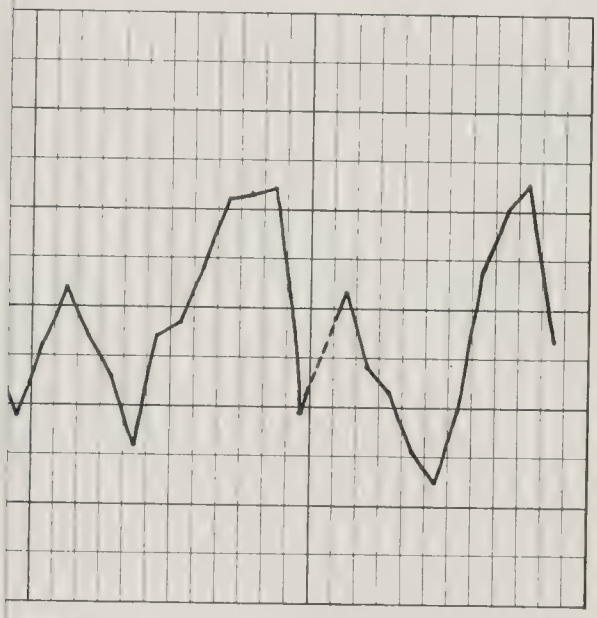
STATION NO. 3

DEPARTMENT OF WATER RESOURCES 1957

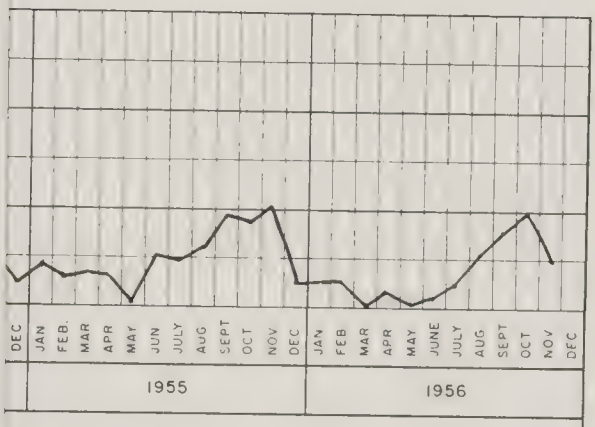
PLATE 3



OLVED SOLIDS

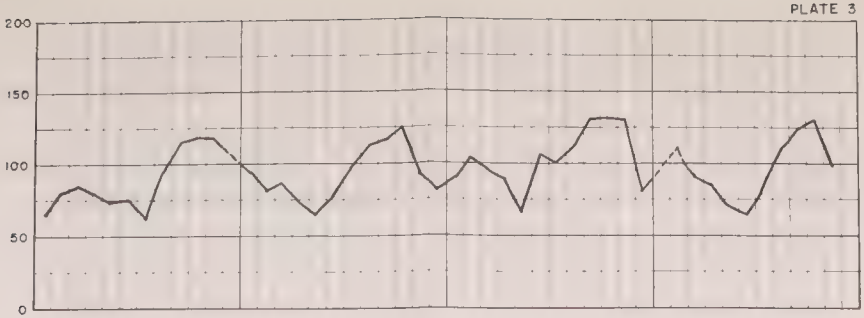


RDNESS

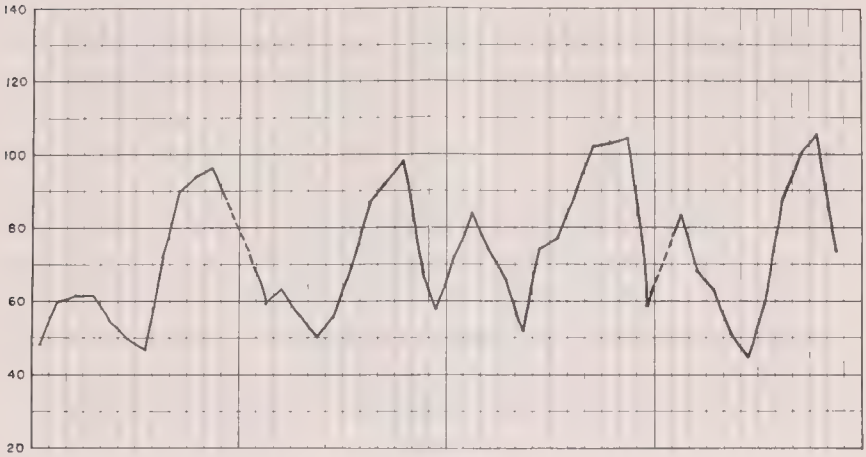



ORIDES

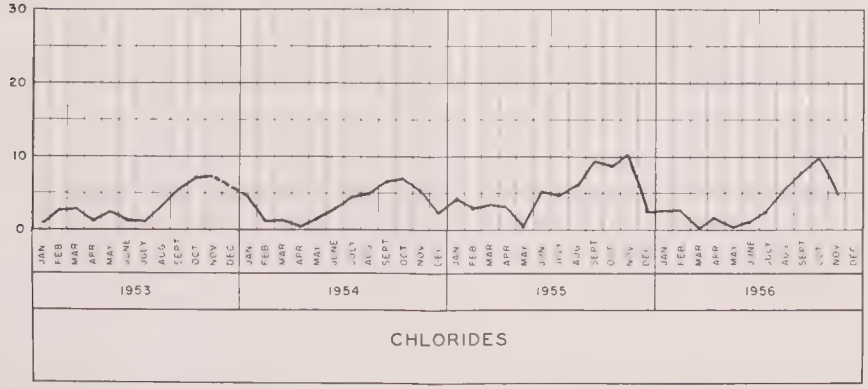
ARACTERISTICS
OF
R NEAR HOOPA
ION NO. 4




TOTAL DISSOLVED SOLIDS



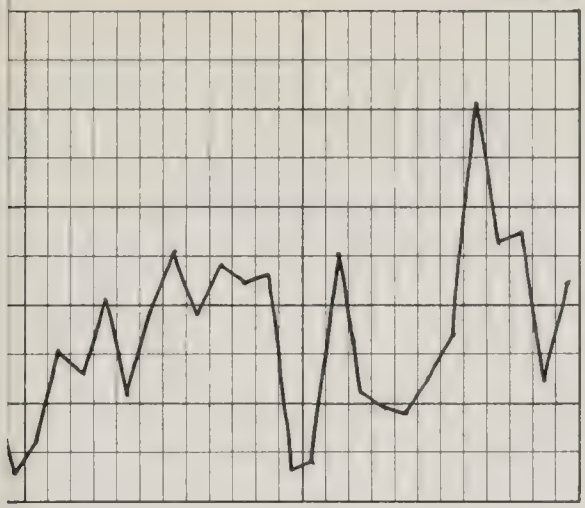

HARDNESS




CHLORIDES

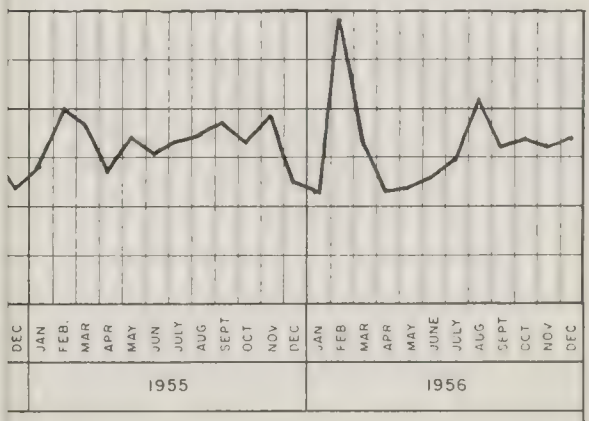
# QUALITY CHARACTERISTICS
OF
# TRINITY RIVER NEAR HOOPA
STATION NO. 4

PLATE 4



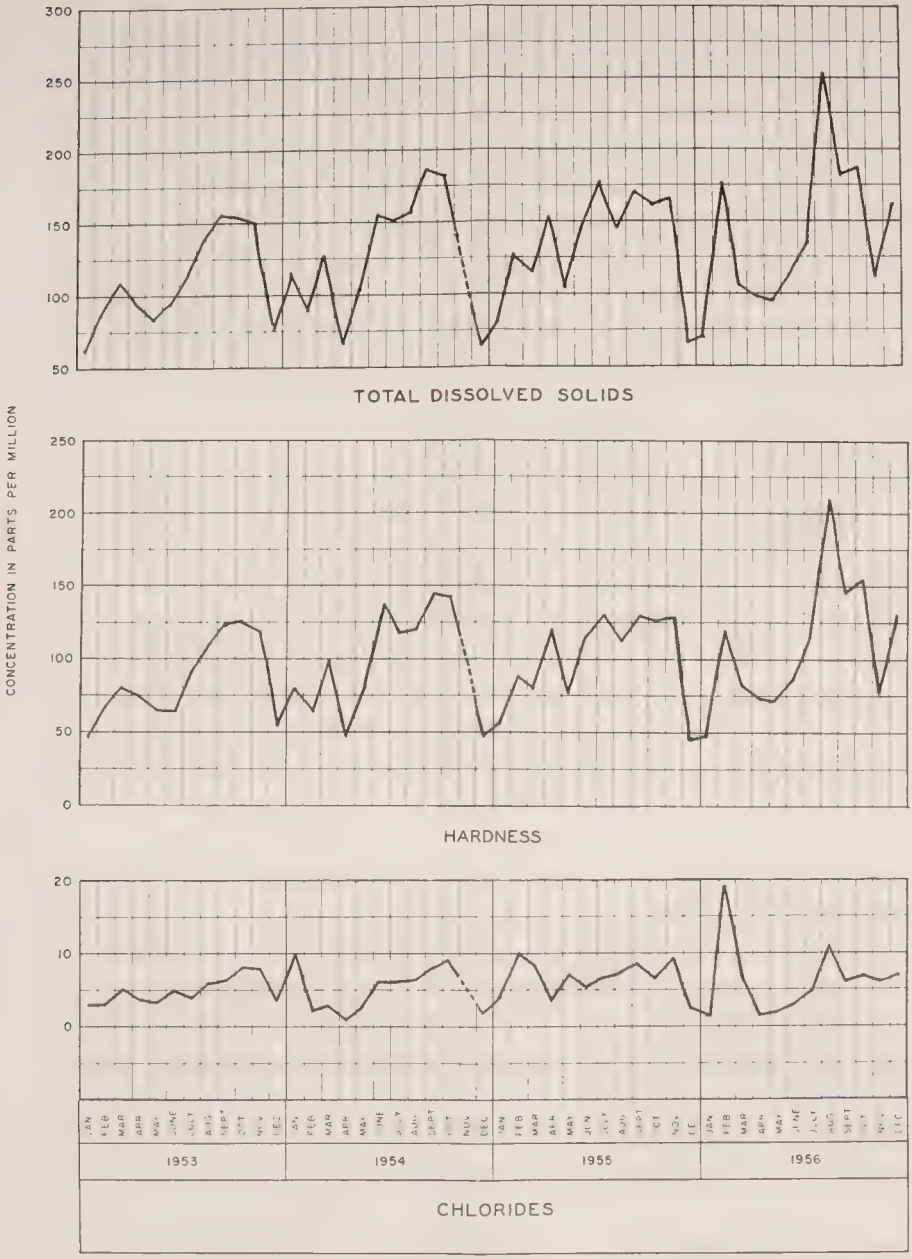
OLVED SOLIDS

RDNESS




ORIDES

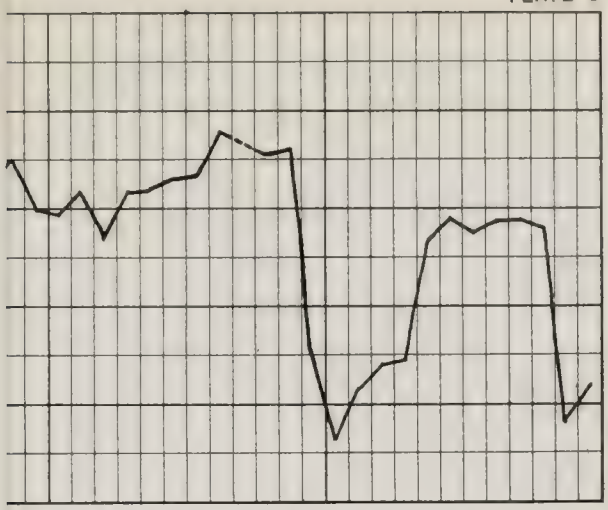
ARACTERISTICS
OF
R AT SCOTIA
ION NO. 6



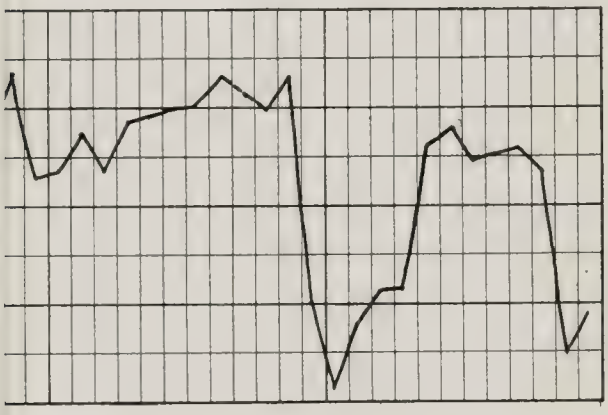

QUALITY CHARACTERISTICS
OF
EEL RIVER AT SCOTIA
STATION NO. 6

DEPARTMENT OF WATER RESOURCES 1957

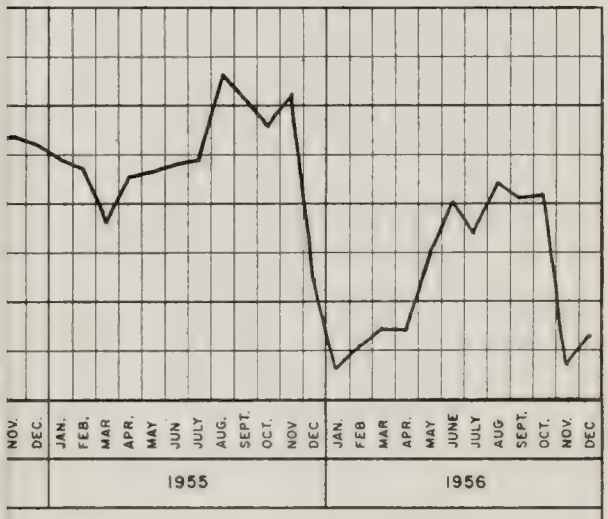
PLATE 6



SOLVED SOLIDS



ARDNESS

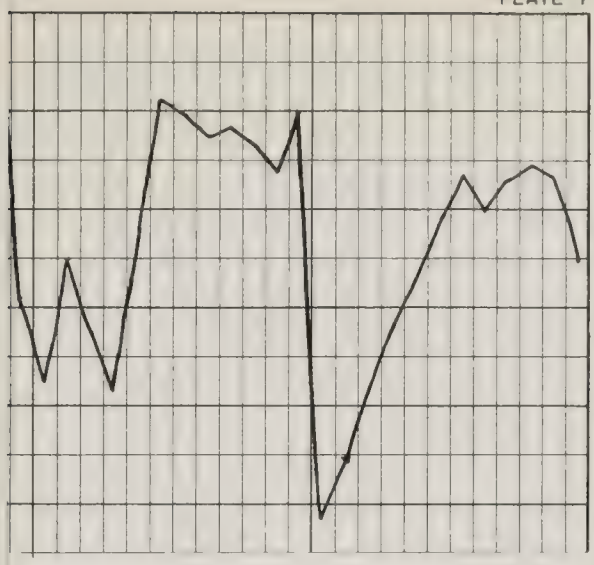



LORIDES

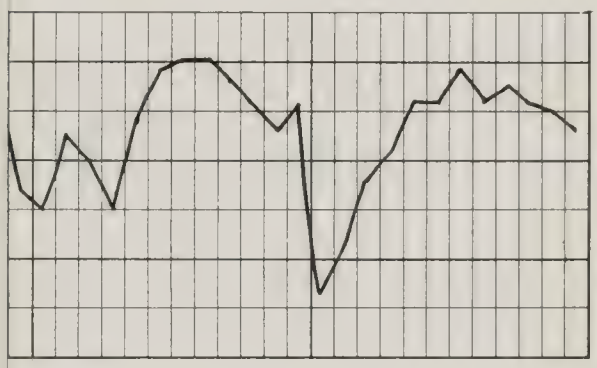
HARACTERISTICS
OF
EEK NEAR NILES
TION NO. 73

QUALITY CHARACTERISTICS
OF
RUSSIAN RIVER AT GUERNEVILLE
STATION NO. 10

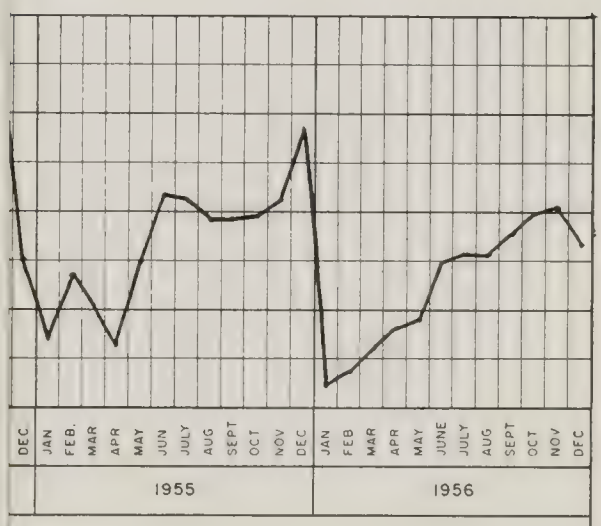
DEPARTMENT OF WATER RESOURCES 1957



SOLVED SOLIDS

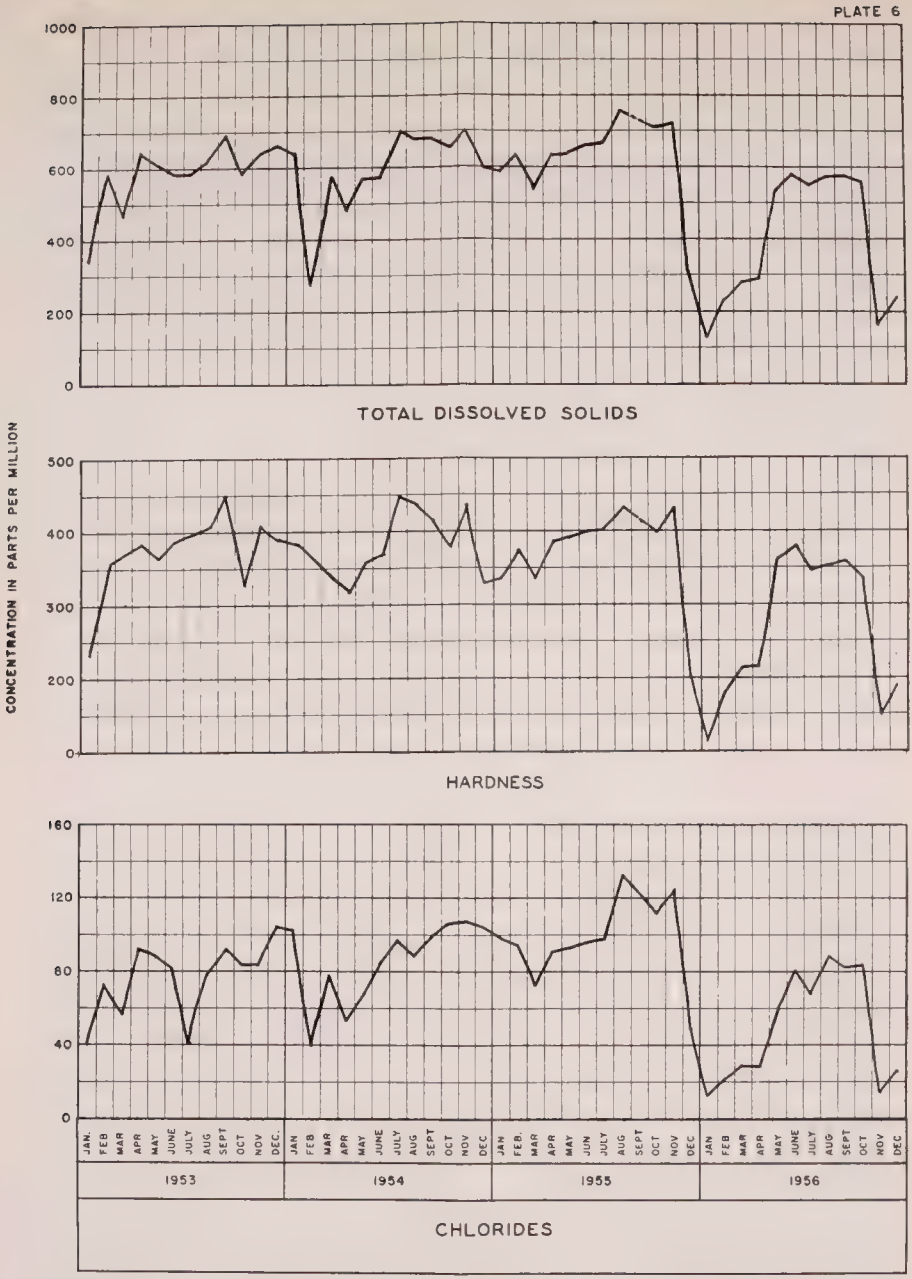


RDNESS




LORIDES

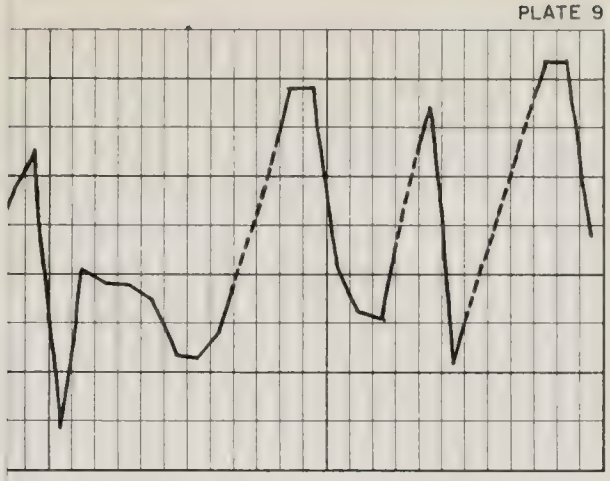
ARACTERISTICS
OF
NEAR CHITTENDEN
ON NO. 77



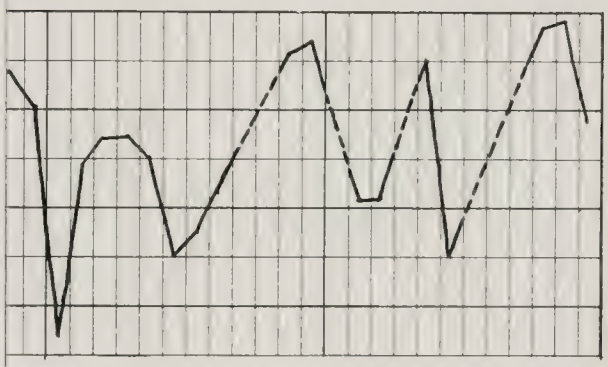

# QUALITY CHARACTERISTICS
OF
# ALAMEDA CREEK NEAR NILES
STATION NO. 73

DEPARTMENT OF WATER RESOURCES 1957

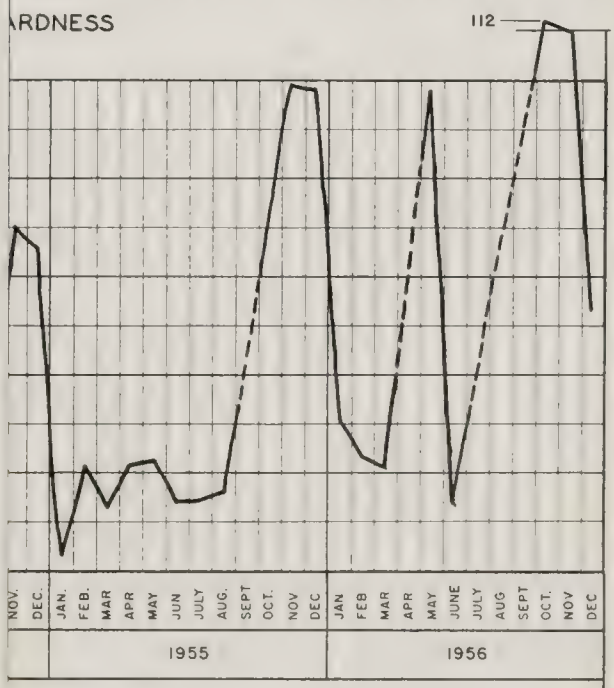
PLATE 9



SSOLVED SOLIDS

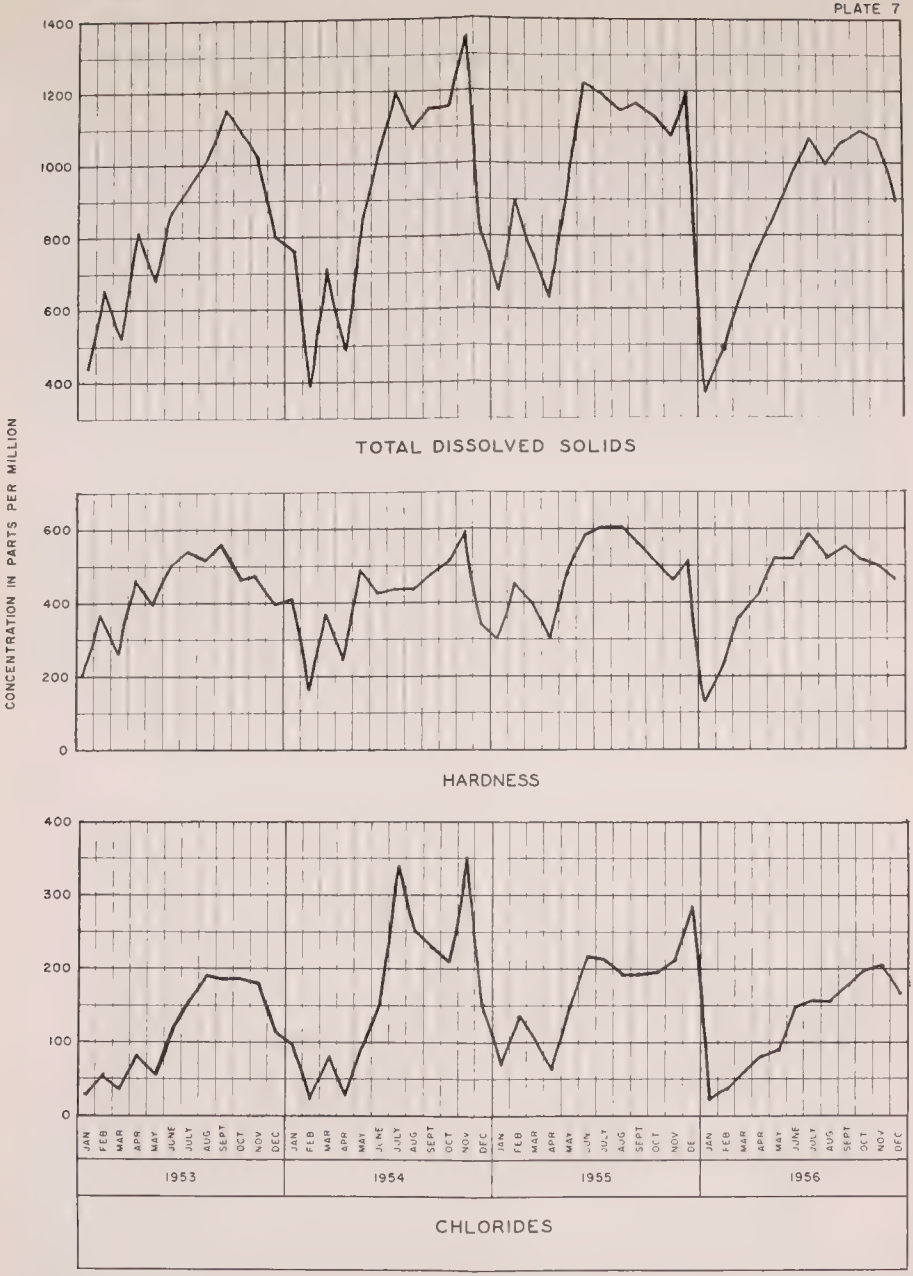


ARDNESS



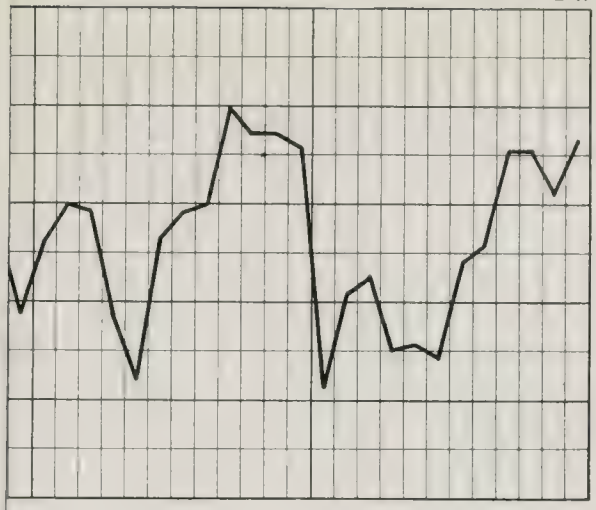

LORIDES

HARACTERISTICS
OF
AT WHITTIER NARROWS
TION NO. 50

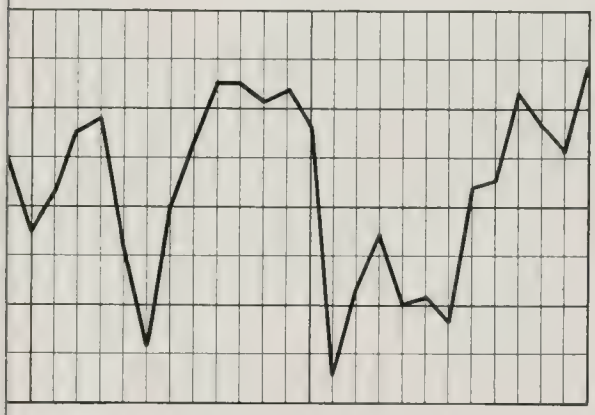



QUALITY CHARACTERISTICS
OF
PAJARO RIVER NEAR CHITTENDEN
STATION NO. 77

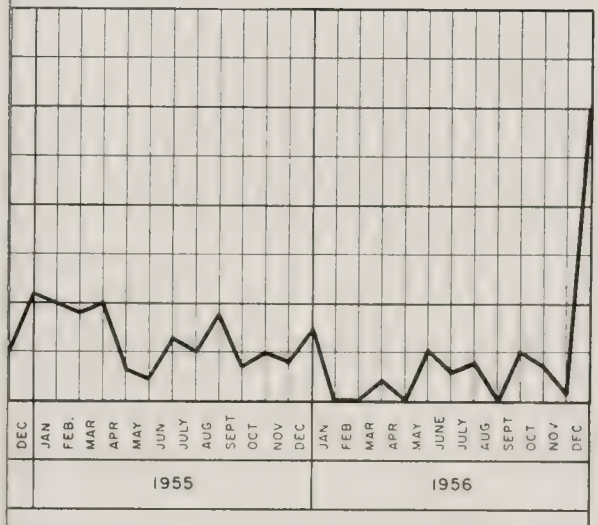
DEPARTMENT OF WATER RESOURCES 1957



OLVED SOLIDS

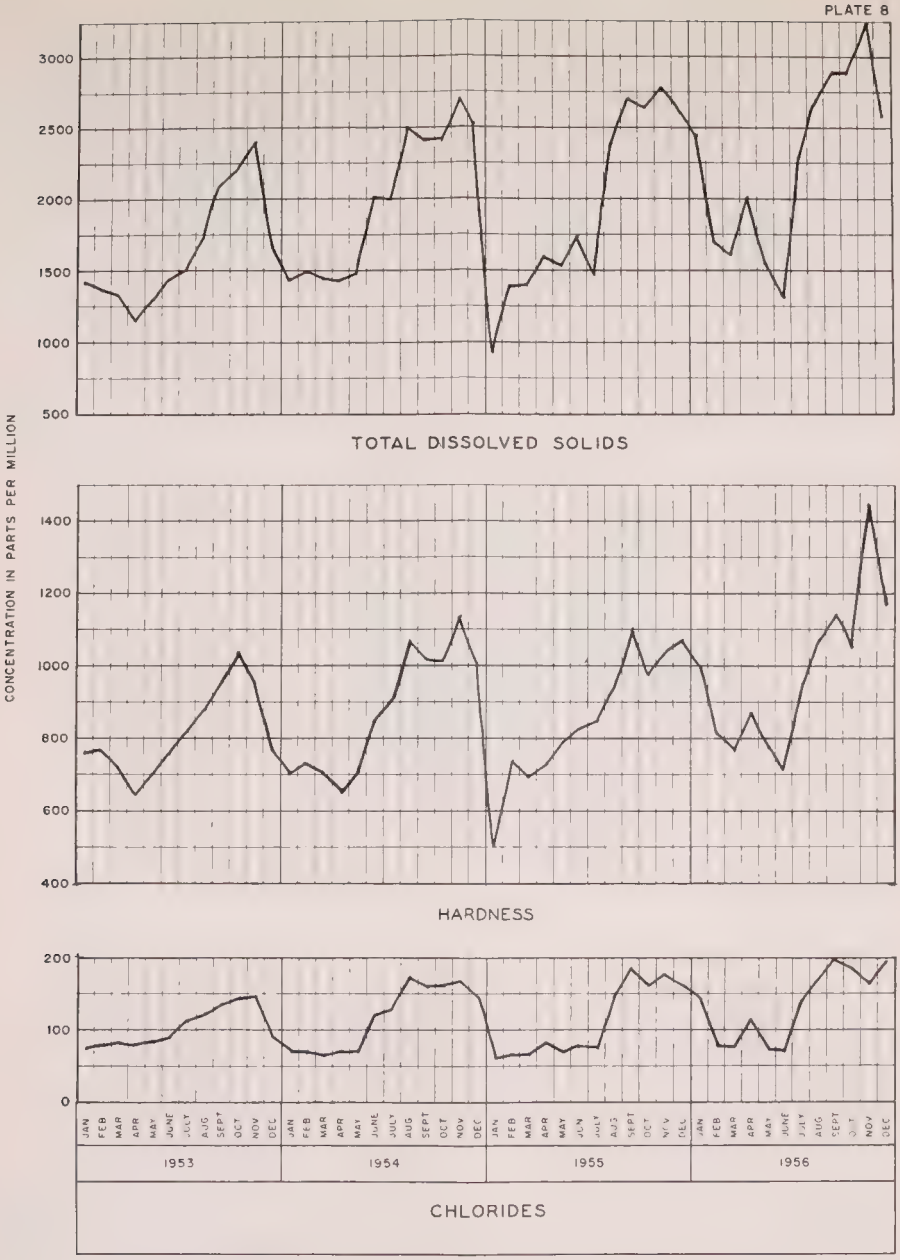


RDNESS



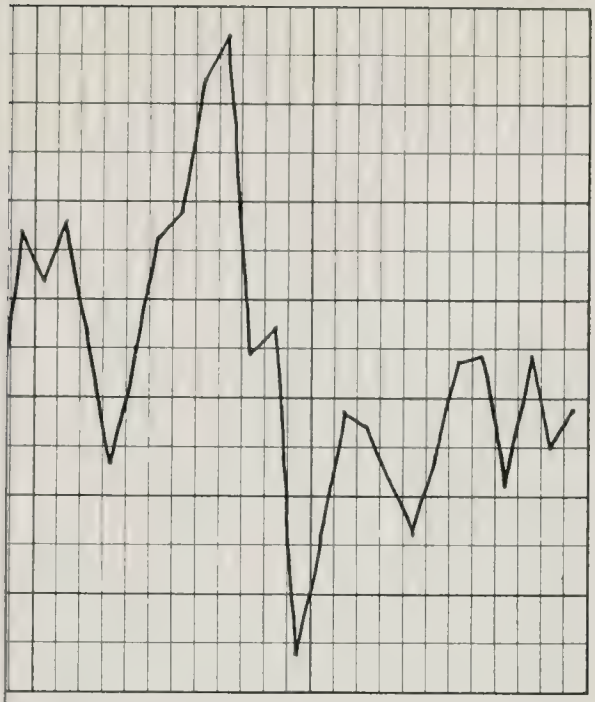

ORIDES

ARACTERISTICS
OF
R NEAR OROVILLE
ION NO. 19

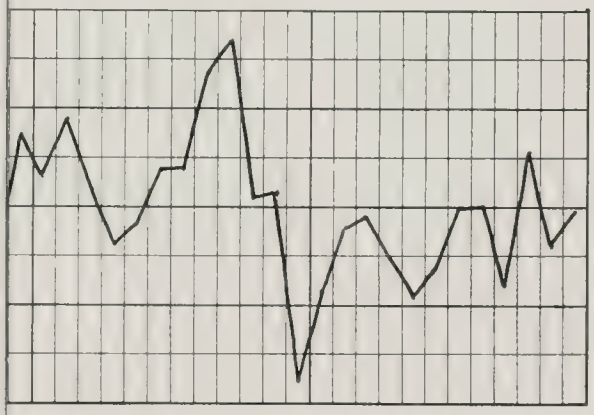



QUALITY CHARACTERISTICS
OF
SANTA CLARA RIVER AT L. A.-VENTURA CO. LINE
STATION NO. 46

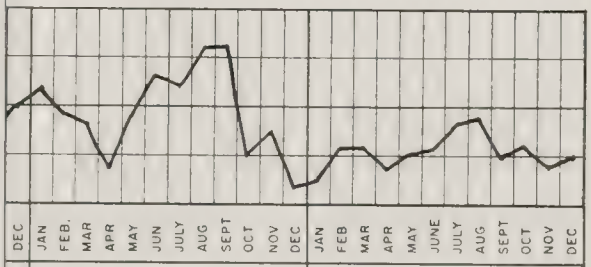
DEPARTMENT OF WATER RESOURCES 1957



SOLVED SOLIDS

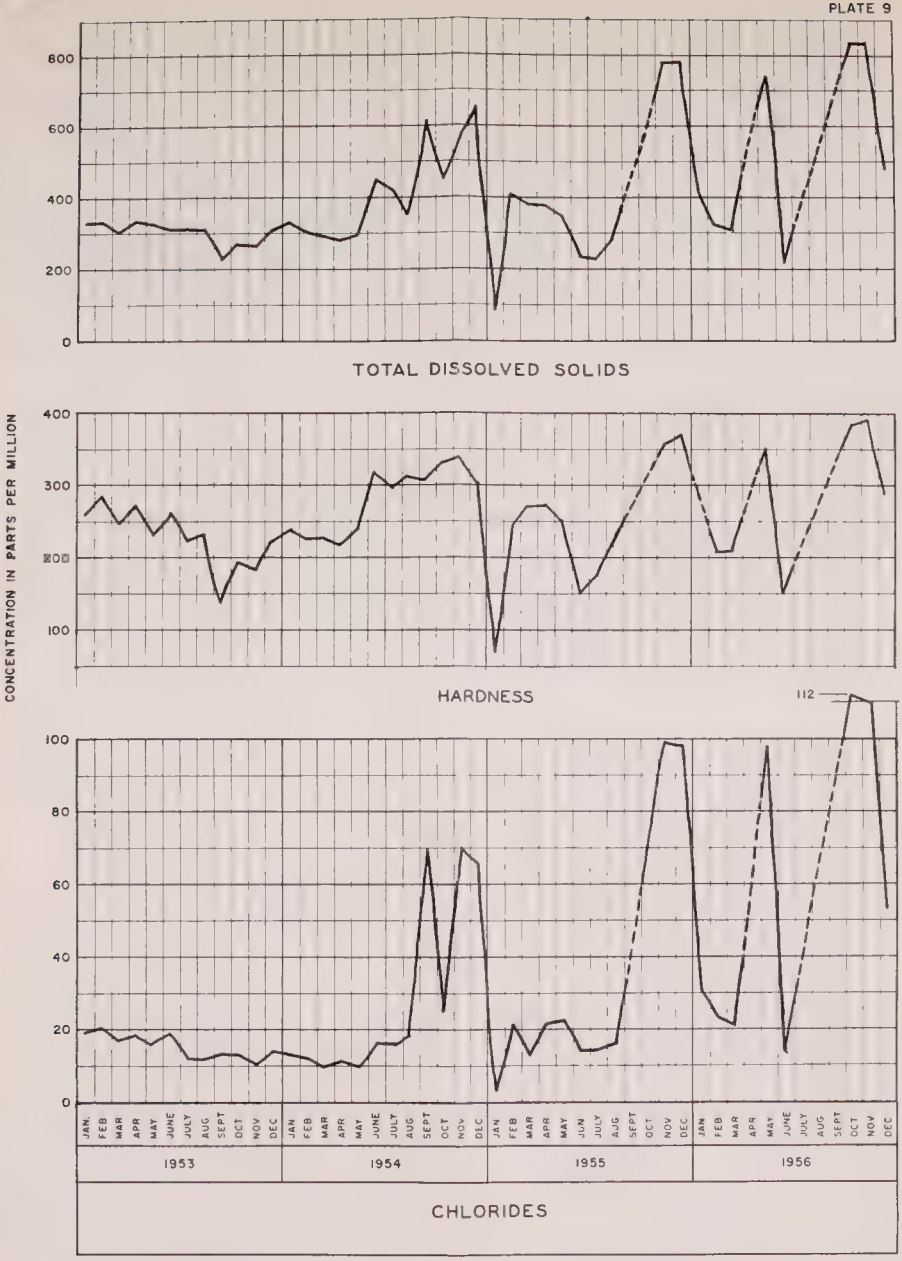


RDNESS



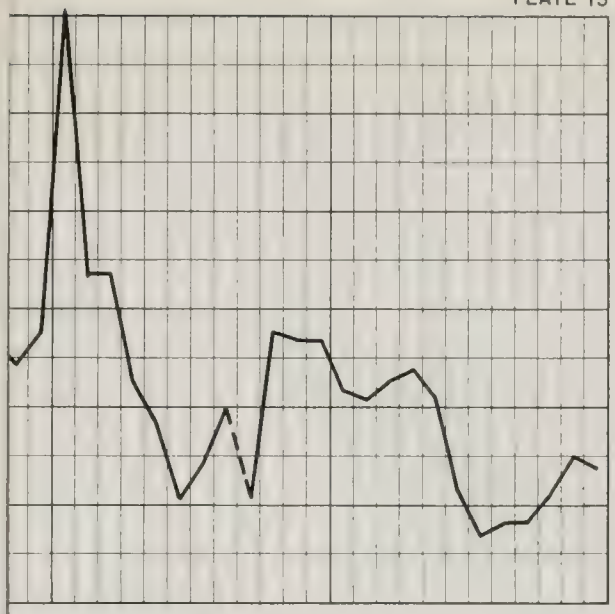

ORIDES

ARACTERISTICS
OF
ER AT SACRAMENTO
ION NO. 15

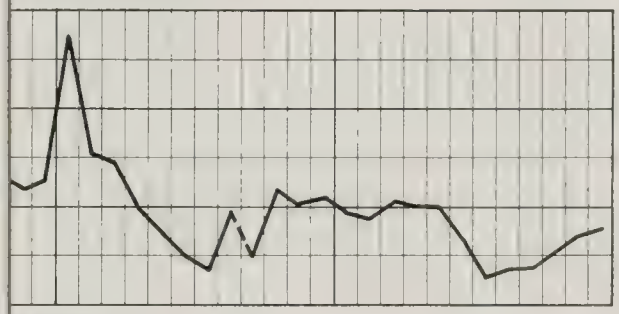



QUALITY CHARACTERISTICS
OF
SAN GABRIEL RIVER AT WHITTIER NARROWS
STATION NO 50

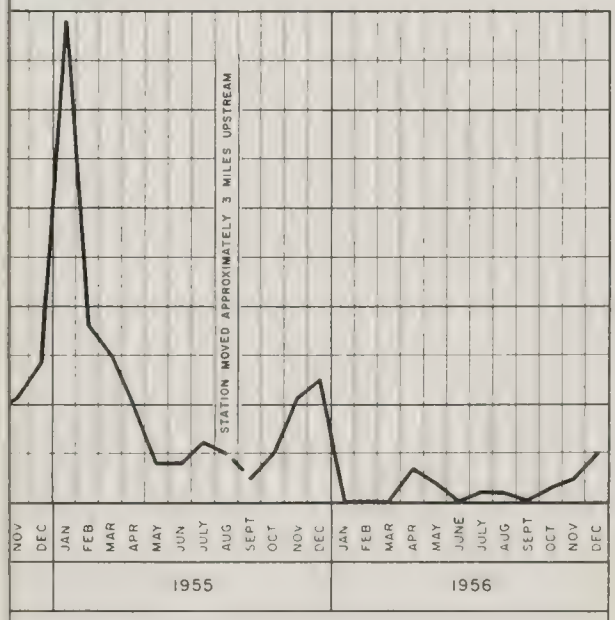
DEPARTMENT OF WATER RESOURCES 1957



SOLVED SOLIDS

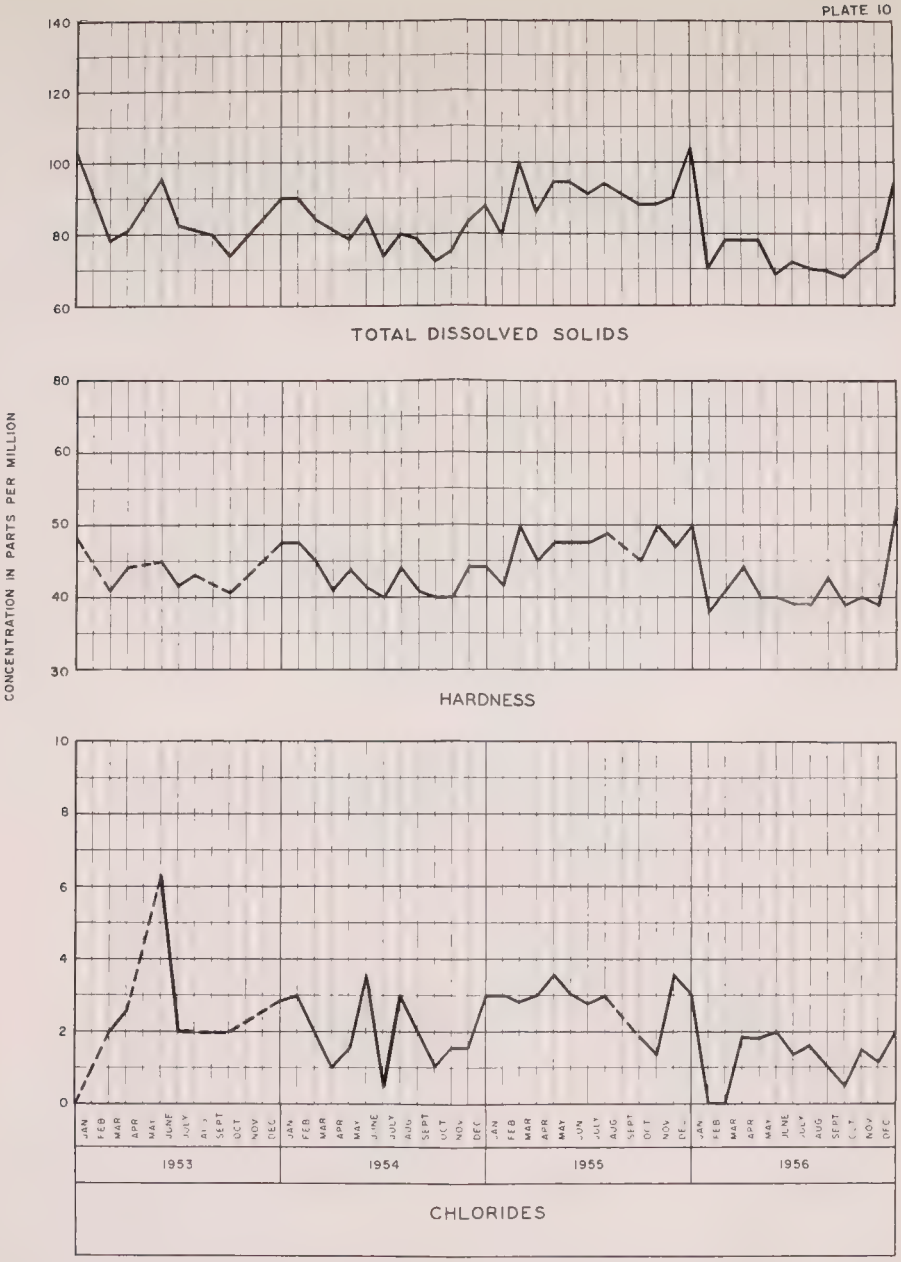


ARDNESS




LORIDES

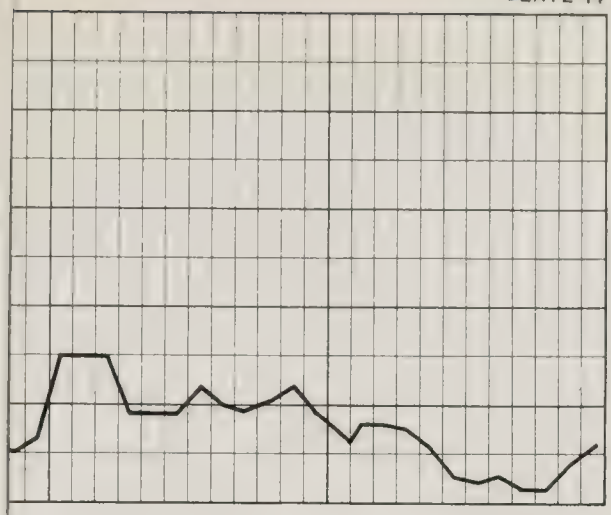
HARACTERISTICS
OF
AND BELOW PINE FLAT DAM
N NO. 33a & 33b



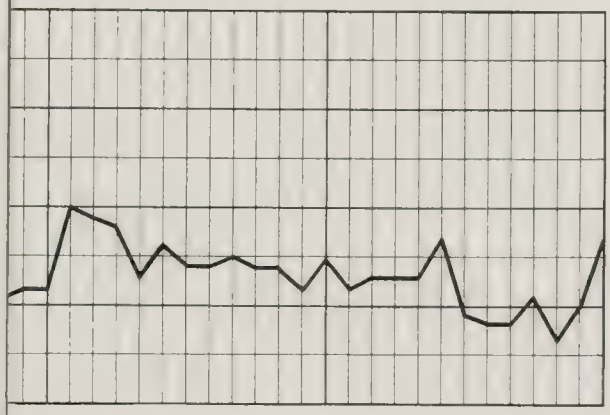

QUALITY CHARACTERISTICS
OF
SACRAMENTO RIVER AT KESWICK
STATION NO. 12

DEPARTMENT OF WATER RESOURCES 1957

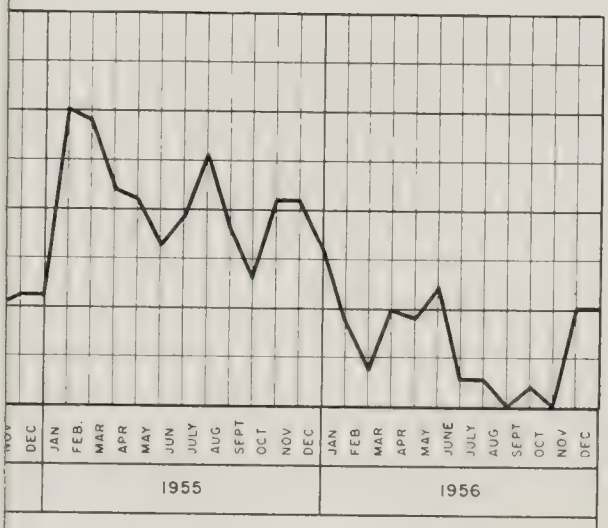
PLATE 14



SOLVED SOLIDS

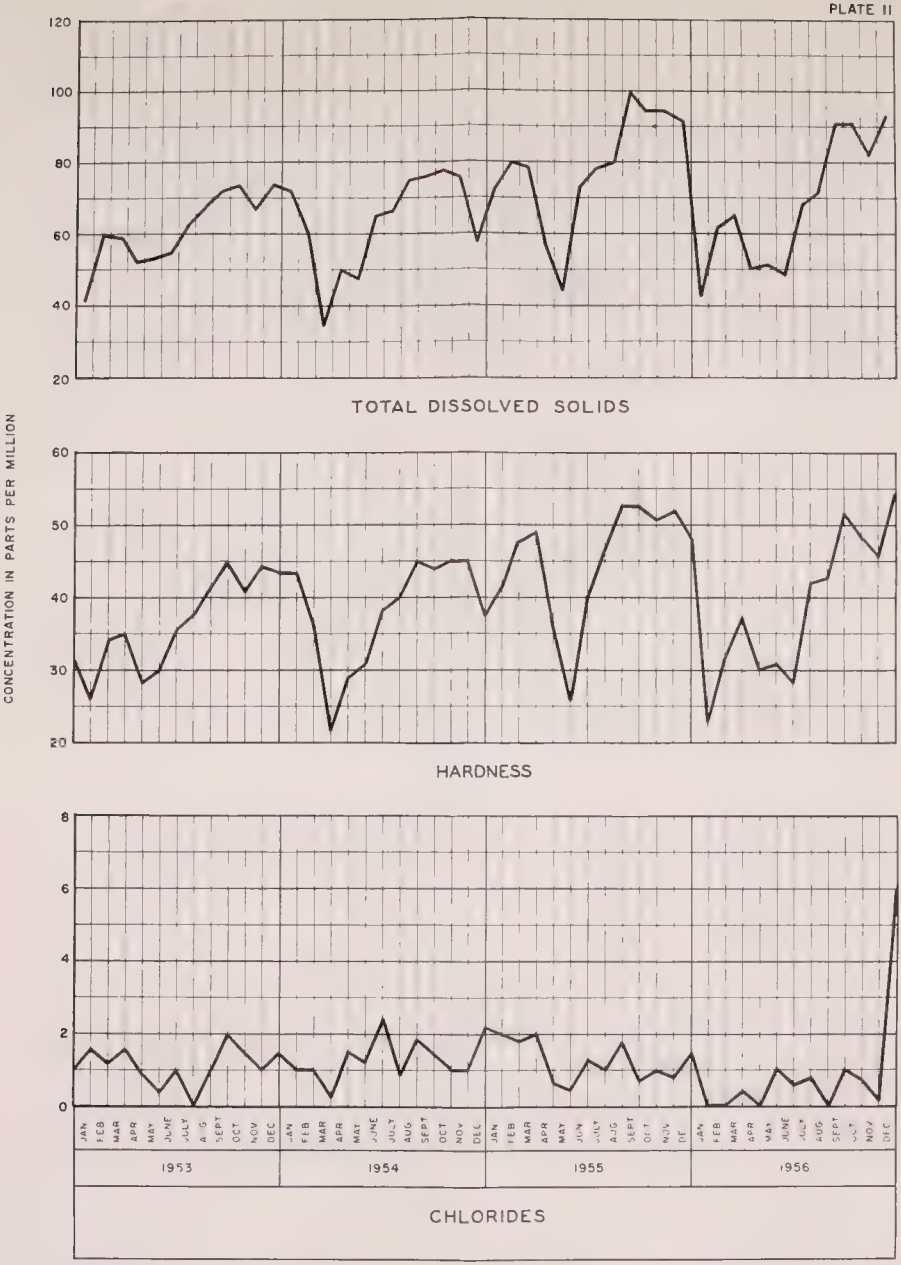


ARDNESS

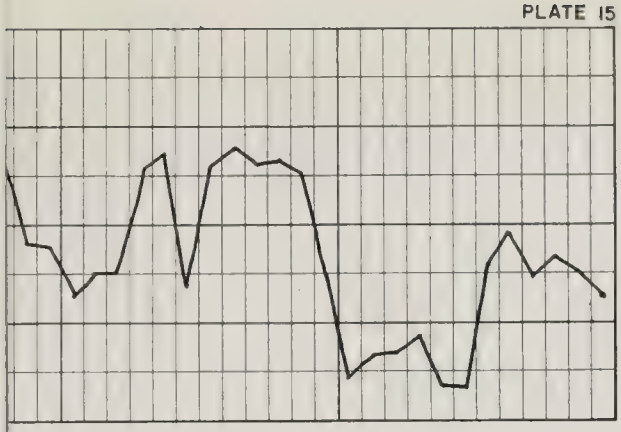



LORIDES

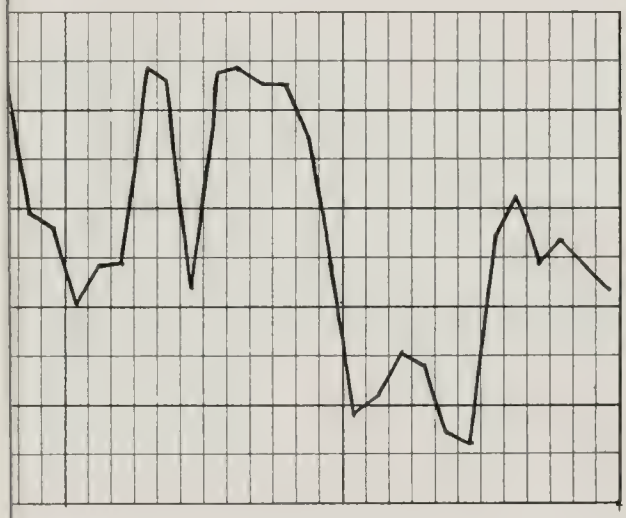
ARACTERISTICS
OF
RIVER AT FRIANT
ION NO. 24



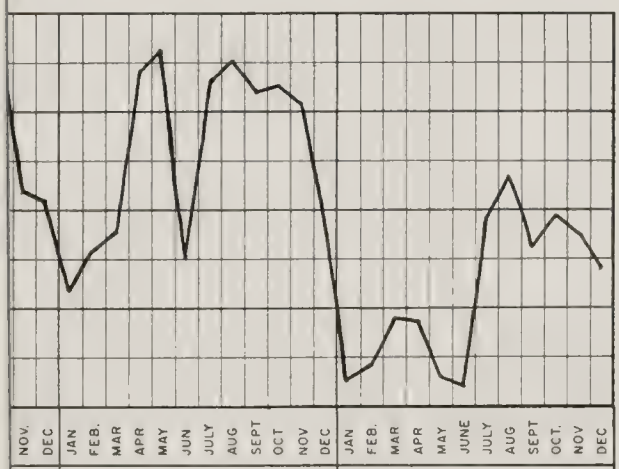

QUALITY CHARACTERISTICS
OF
FEATHER RIVER NEAR OROVILLE
STATION NO. 19



SSOLVED SOLIDS

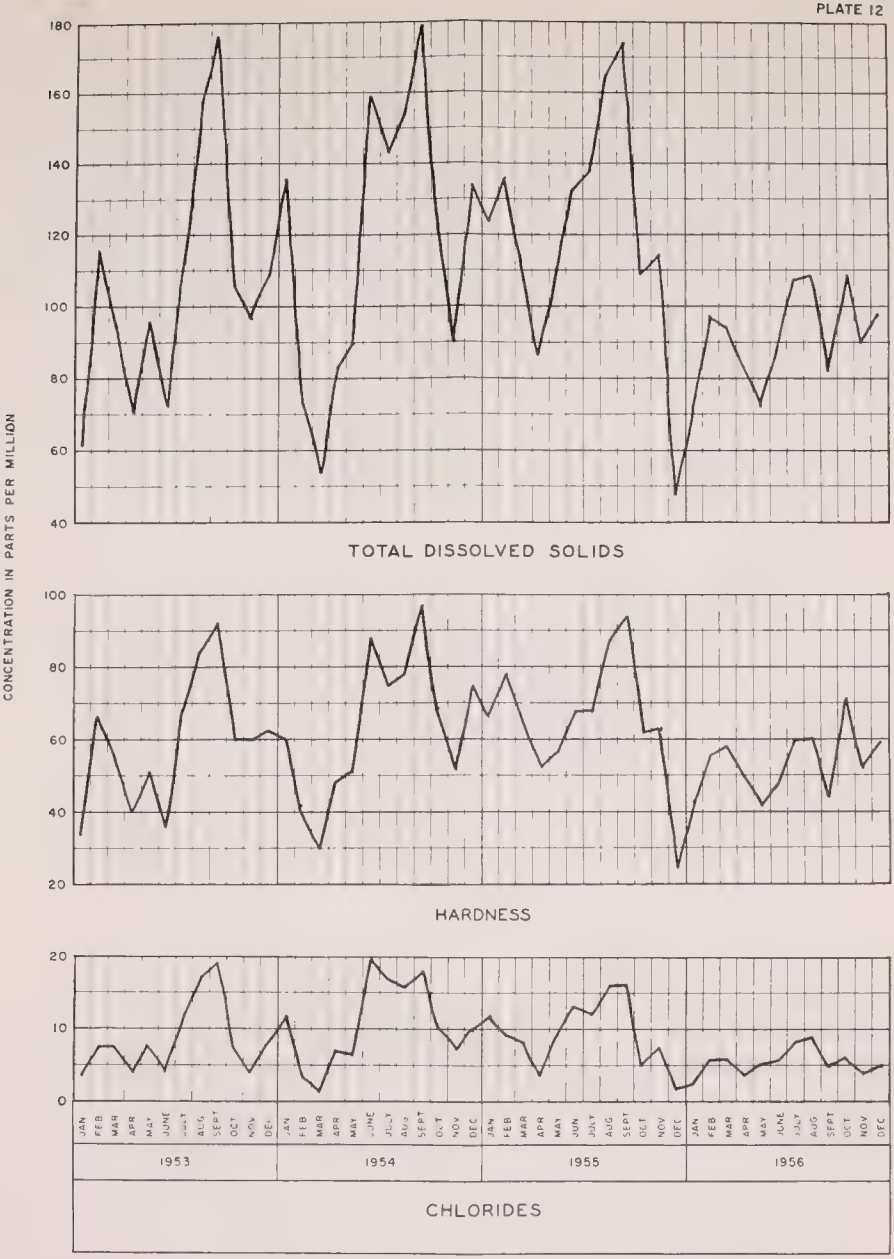


ARDNESS



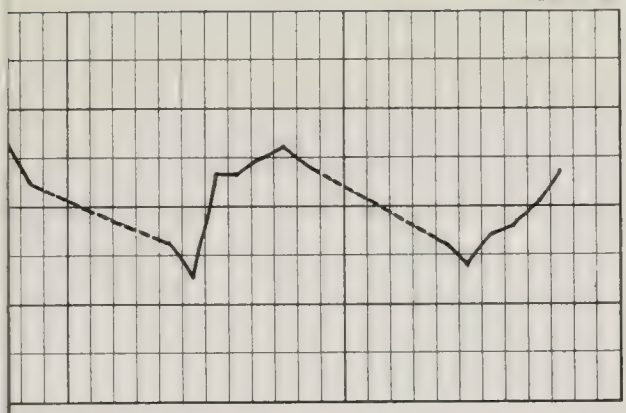

LORIDES

HARACTERISTICS
OF
IVER NEAR VERNALIS
TION NO. 27

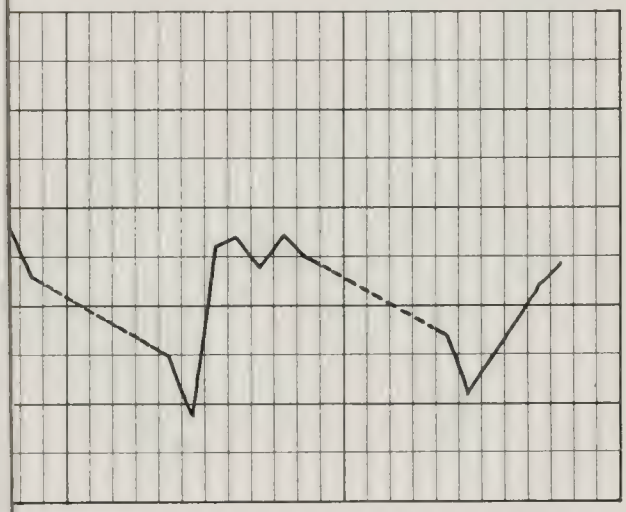



QUALITY CHARACTERISTICS
OF
SACRAMENTO RIVER AT SACRAMENTO
STATION NO. 15

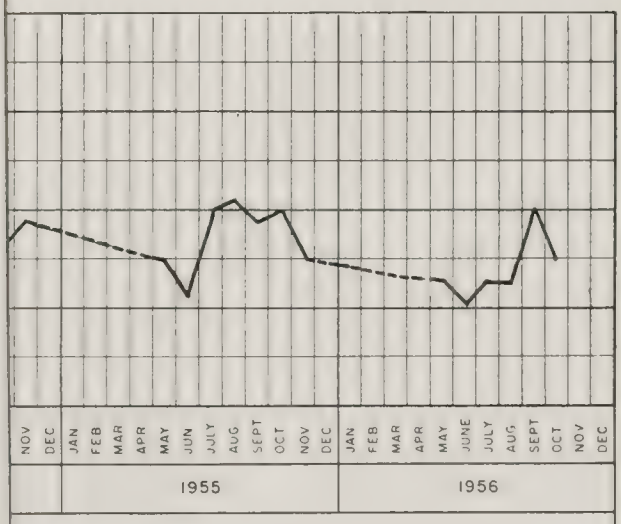
DEPARTMENT OF WATER RESOURCES 1957



SSOLVED SOLIDS



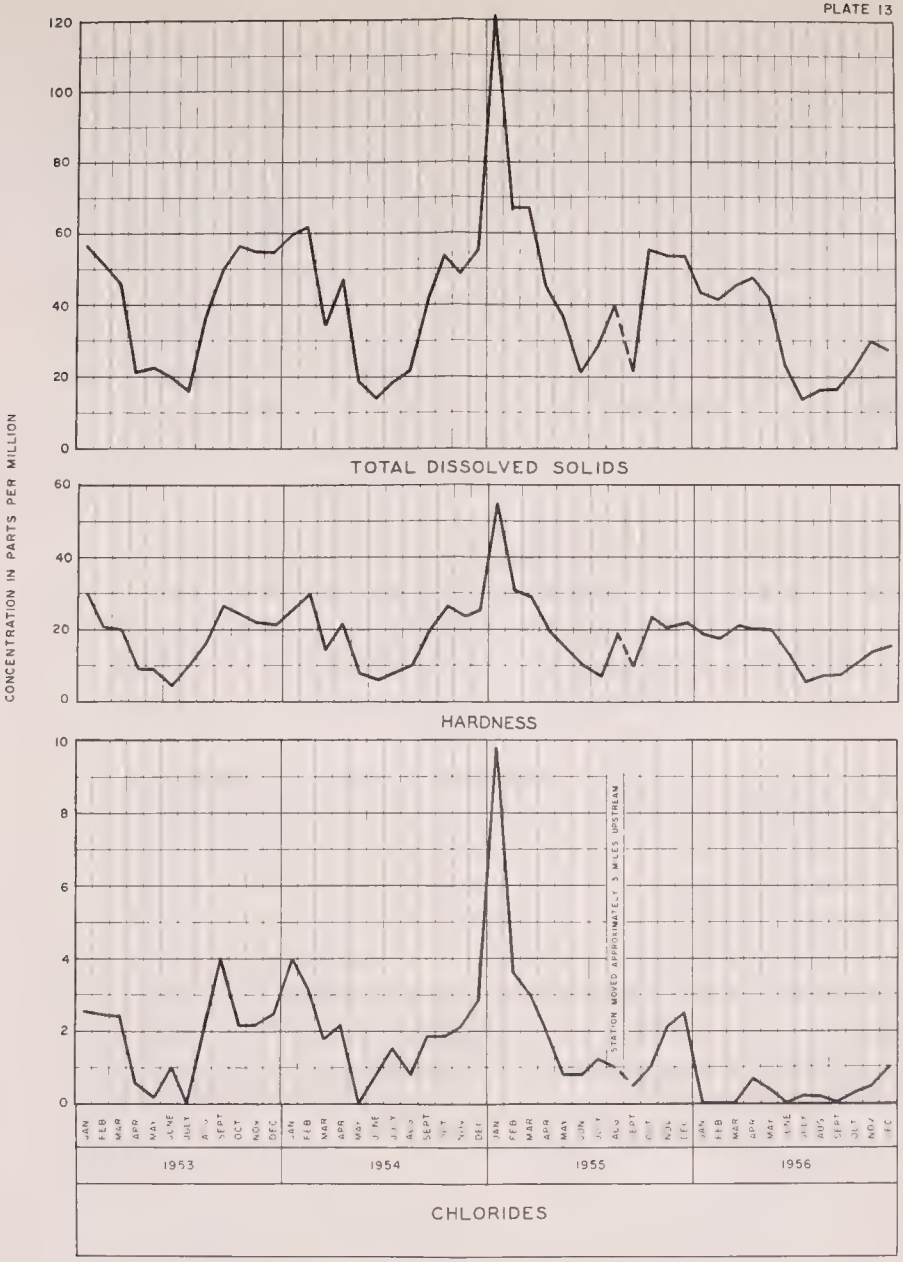
ARDNESS




HLORIDES

HARACTERISTICS
OF
VER NEAR FARAD
ATION NO. 53

PLATE 13



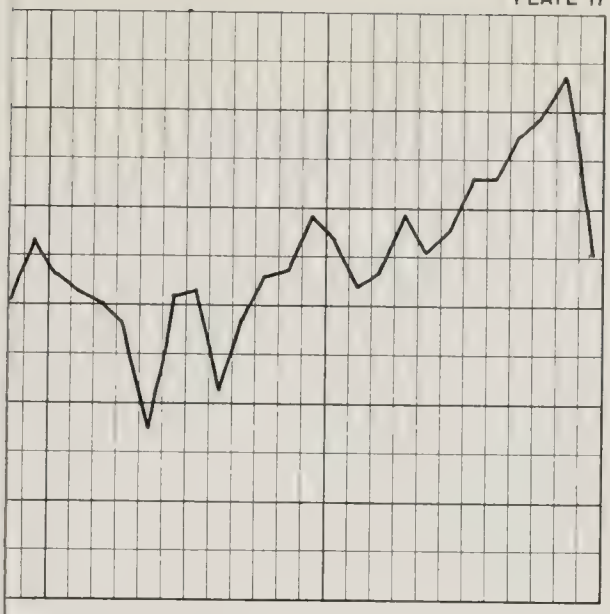

QUALITY CHARACTERISTICS

OF

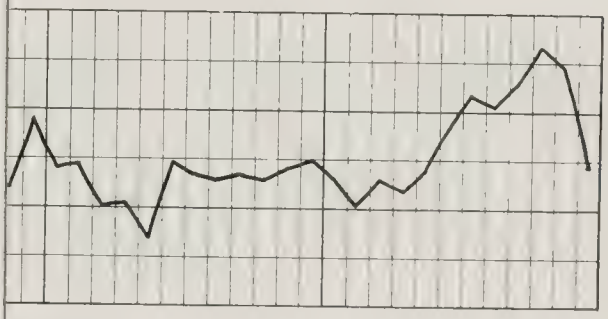
KINGS RIVER AT PIEDRA AND BELOW PINE FLAT DAM

STATION NO. 33a & 33b

DEPARTMENT OF WATER RESOURCES 1957



SOLVED SOLIDS



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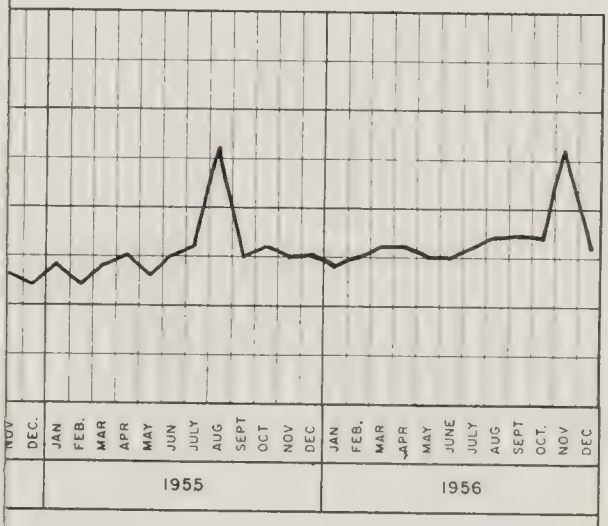


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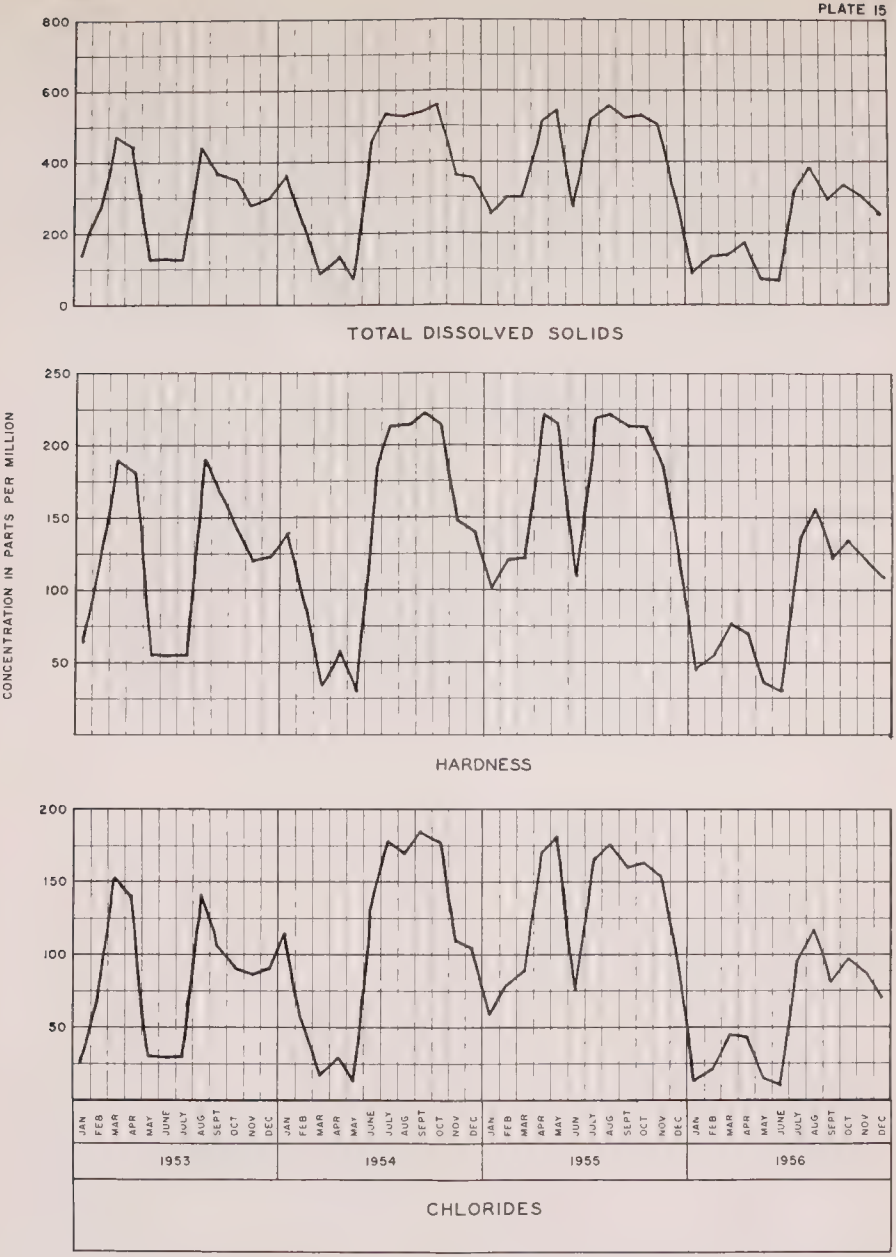
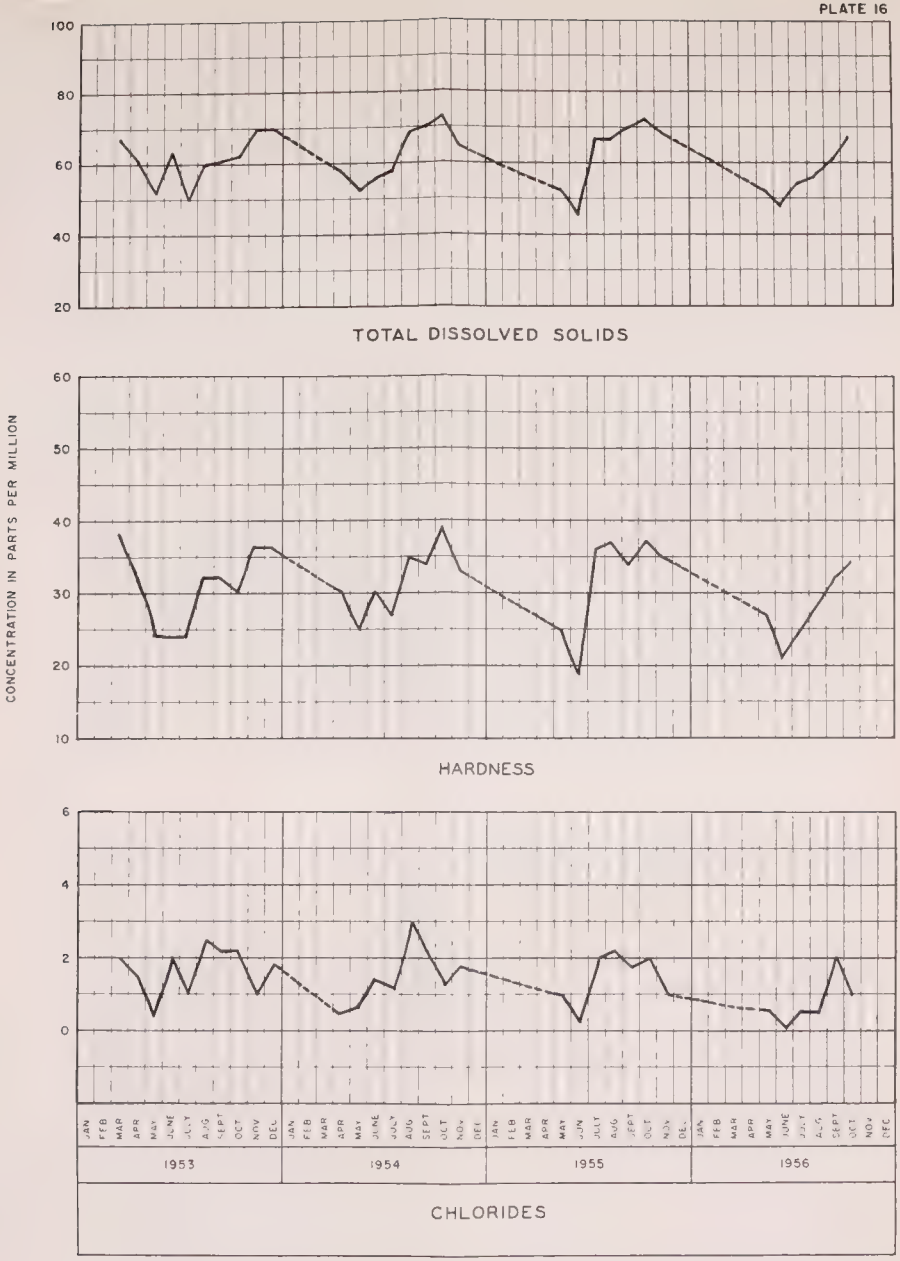
ARACTERISTICS
OF
ER NEAR MENTONE
TION NO. 51b



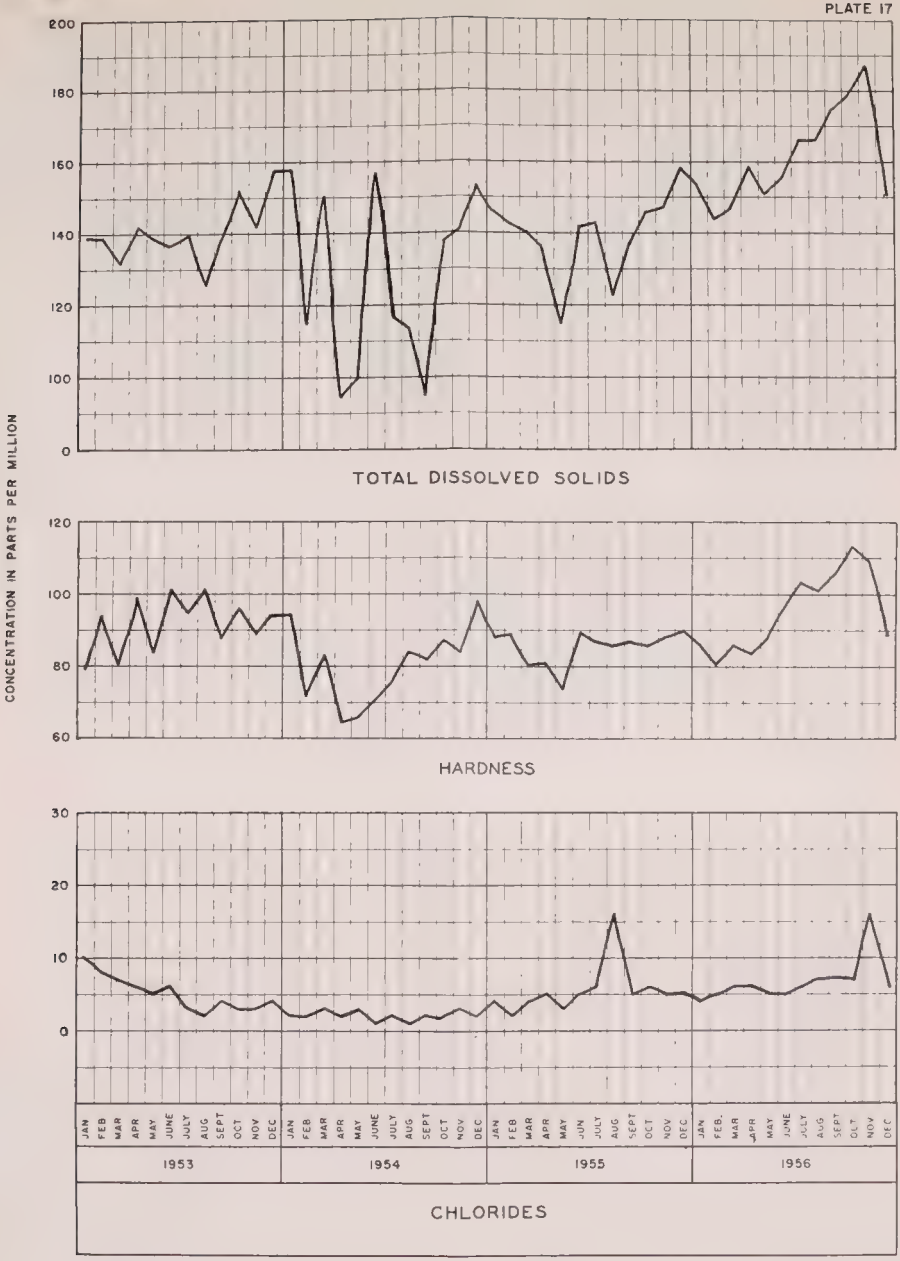

QUALITY CHARACTERISTICS
OF
SAN JOAQUIN RIVER NEAR VERNALIS
STATION NO. 27

DEPARTMENT OF WATER RESOURCES 1957




QUALITY CHARACTERISTICS
OF
TRUCKEE RIVER NEAR FARAD
STATION NO. 53

DEPARTMENT OF WATER RESOURCES 1957

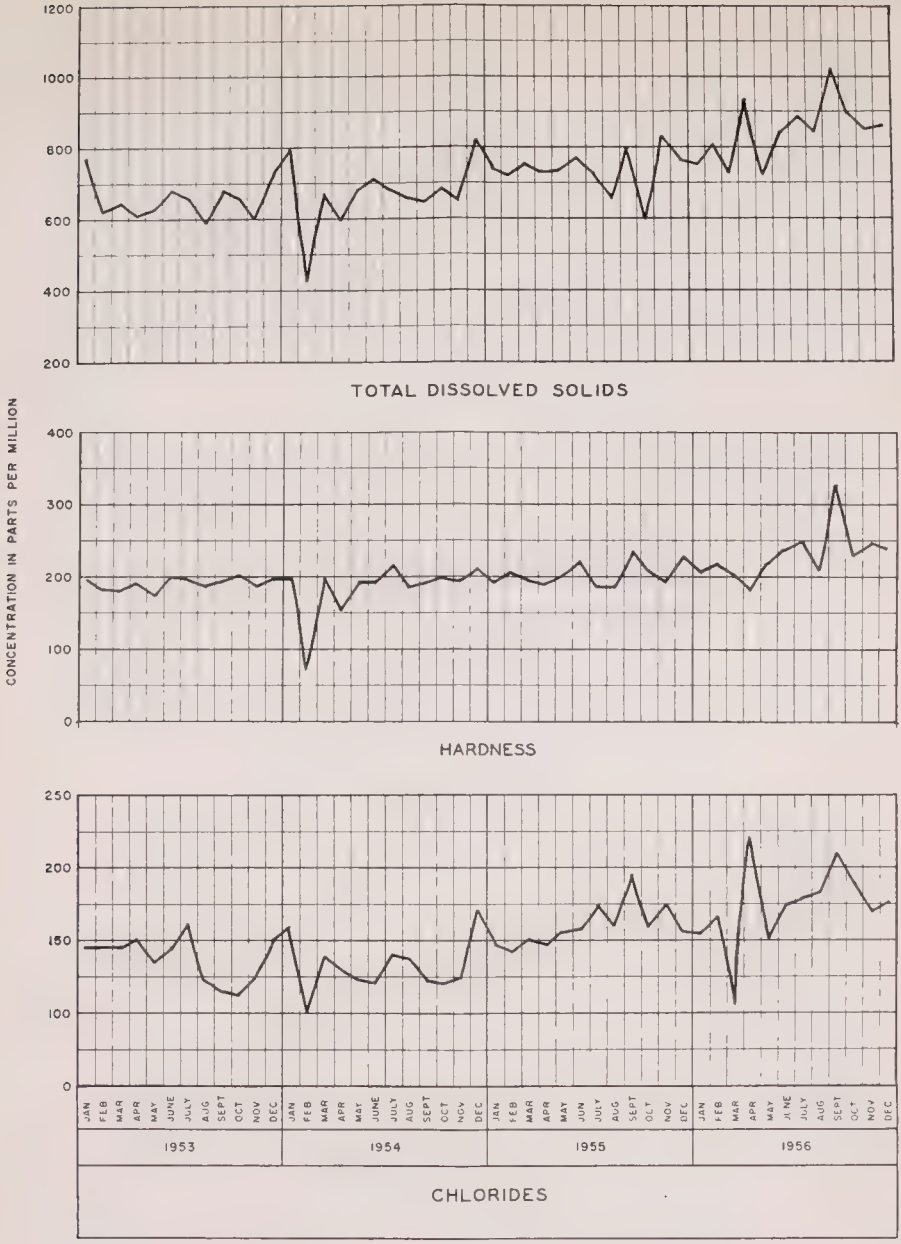



# QUALITY CHARACTERISTICS
OF
# SANTA ANA RIVER NEAR MENTONE
STATION NO. 51b

DEPARTMENT OF WATER RESOURCES 1957

# APPENDIX A

Sampling Station, Mineral Analyses, and Radioassay Data




QUALITY CHARACTERISTICS
OF
SANTA MARGARITA RIVER NEAR FALLBROOK
STATION NO. 51c

DEPARTMENT OF WATER RESOURCES 1957

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## TABLE I

### SAMPLING STATION DATA
### NORTH COASTAL REGION

STATION Eel River near McCann

SAMPLING POINT Summer bridge near left bank.

STATION NO. 5 REGION NO. 1 COUNTY Humboldt

AT RIVER MILE 46.5 SEC. 3, T 2 S, R 3 E, HB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-89 TABLE 1

STATION Eel River at Scotia

SAMPLING POINT Left bank below U. S. Highway 101 bridge between Scotia and Rio Dell.

STATION NO. 6 REGION NO. 1 COUNTY Humboldt

AT RIVER MILE 21.8 SEC. 7, T 1 N, R 1 E, HB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-91 TABLE 1

## TABLE I

### SAMPLING STATION DATA
### NORTH COASTAL REGION

STATION Eel River, South Fork, near Miranda

SAMPLING POINT Right bank below gage six miles south of Miranda at Sylvandale camp grounds on U. S. Highway 101 and 0.9 mile south of Rocky Glen Creek.

STATION NO. 7 REGION NO. 1 COUNTY Humboldt

AT RIVER MILE 20 SEC. 30, T 3 S, R 4 E, HB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-93 TABLE 1

STATION Klamath River near Copco

SAMPLING POINT Right bank at USGS gaging station one mile south of Copco post office, one-half mile downstream from Copco No. 2 plant of the California-Oregon Power Company and 500 feet downstream from Fall Creek.

STATION NO. 1 REGION NO. 1 COUNTY Siskiyou

AT RIVER MILE 190 SEC. 36, T 48 N, R 5 W, MDB&M

SAMPLED BY Department of Fish and Game

ANALYSIS ON PAGE A-95 TABLE 1

## TABLE I

### SAMPLING STATION DATA
### NORTH COASTAL REGION

STATION Klamath River near Klamath

SAMPLING POINT Right bank at USGS gage located 5.7 miles upstream from town of Klamath.

STATION NO. 3 REGION NO. 1 COUNTY Del Norte

AT RIVER MILE _____ SEC. 17, T 13 N, R 2 E, HB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-97 TABLE 1

STATION Klamath River at Somesbar

SAMPLING POINT Left bank 100 feet downstream from gage, 1 mile west of Somesbar post office and 300 feet downstream from Salmon River.

STATION NO. 2 REGION NO. 1 COUNTY Siskiyou

AT RIVER MILE 64 SEC. 4, T 11 N, R 6 E, HB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-99 TABLE 1

## TABLE I

### SAMPLING STATION DATA
### NORTH COASTAL REGION

STATION Russian River, East Fork, near Calpella

SAMPLING POINT Left bank about 0.2 mile downstream from gage. Gage located on right bank, 5.1 miles east of U. S. Highway 101 on State Route No. 20.

STATION NO. 8 REGION NO. 1 COUNTY Mendocino

AT RIVER MILE 6.0 SEC. 13, T 16 N, R 12 W, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-101 TABLE 1

STATION Russian River, East Fork, at Potter Valley Power House

SAMPLING POINT Tailrace of PG&E powerhouse, 3 miles northeast of town of Potter Valley.

STATION NO. 10a REGION NO. 1 COUNTY Mendocino

AT RIVER MILE _____ SEC. 6, T 17 N, R 11 W, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-103 TABLE 1

## TABLE I

### SAMPLING STATION DATA
### NORTH COASTAL REGION

STATION Russian River at Guerneville

SAMPLING POINT Right bank below highway bridge in Guerneville, 6.5 miles upstream from Austin Creek.

STATION NO. 10 REGION NO. 1 COUNTY Sonoma

AT RIVER MILE 15 SEC. 32, T 8 N, R 10 W, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-105 TABLE 1

STATION Russian River near Healdsburg

SAMPLING POINT Left bank below gage, 2 miles east of Healdsburg and 3.5 miles upstream from Dry Creek.

STATION NO. 9 REGION NO. 1 COUNTY Sonoma

AT RIVER MILE 35.6 SEC. 22, T 9 N, R 9 W, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-107 TABLE 1

# TABLE I

## SAMPLING STATION DATA
## NORTH COASTAL REGION

STATION Russian River near Hopland

SAMPLING POINT Right bank below gage of abandoned bridge 0.6 mile off U. S. Highway 101 on Largo Road and 3.8 miles north of Hopland.

STATION NO. 8a REGION NO. 1 COUNTY Mendocino

AT RIVER MILE 85.7 SEC. 36, T 14 N, R 12 W, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-109 TABLE 1

STATION Russian River near Ukiah

SAMPLING POINT Left bank upstream from Talmadge Road Bridge about 1 mile southeast of Ukiah.

STATION NO. 10b REGION NO. 1 COUNTY Mendocino

AT RIVER MILE _____ SEC. 28, T 15 N, R 12 W, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-111 TABLE 1

## TABLE I

### SAMPLING STATION DATA
### NORTH COASTAL REGION

STATION Smith River near Crescent City

SAMPLING POINT From left bank below gage, 8 miles east of Crescent City and 0.5 mile downstream from South Fork.

STATION NO. 3a REGION NO. 1 COUNTY Del Norte

AT RIVER MILE 17 SEC. 10, T 16 N, R 1 E, HB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-113 TABLE 1

STATION Trinity River near Hoopa

SAMPLING POINT From left bank near gage located 2 miles southeast of Hoopa and 0.5 mile downstream from Campbell Creek on Hoopa Indian Reservation and on property of Sugar Pine Lumber Company.

STATION NO. 4 REGION NO. 1 COUNTY Humboldt

AT RIVER MILE 15.3 SEC. 31, T 8 N, R 5 E, HB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-115 TABLE 1

# TABLE I

## SAMPLING STATION DATA
## NORTH COASTAL REGION

STATION Trinity River at Lewiston

SAMPLING POINT From left bank below gage at highway bridge at Lewiston, 0.8 mile downstream from Deadwood Creek.

STATION NO. 4a REGION NO. 1 COUNTY Trinity

AT RIVER MILE 102 SEC. 19, T 33 N, R 8 W, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-117 TABLE 1

# TABLE 2

## SAMPLING STATION DATA
## SAN FRANCISCO BAY REGION

STATION Alameda Creek near Niles

SAMPLING POINT Right bank at concrete control near gage located 0.2 mile downstream from railroad bridge and 1.2 miles northeast of Niles.

STATION NO. 73 REGION NO. 2 COUNTY Alameda

AT RIVER MILE 1 SEC. 15, T 4 S, R 1 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-119 TABLE 2

STATION Coyote Creek near Madrone

SAMPLING POINT Right bank at gage 0.2 mile downstream from county road bridge and 2.8 miles northeast of Madrone.

STATION NO. 82 REGION NO. 2 COUNTY Santa Clara

AT RIVER MILE _____ SEC. 9, T 9 S, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-121 TABLE 2

# TABLE 2

## SAMPLING STATION DATA
## SAN FRANCISCO BAY REGION

STATION Los Gatos Creek at Los Gatos

SAMPLING POINT Sampled from left bank at foot of gage about 0.75 mile upstream from Los Gatos and 0.25 mile downstream from Lexington Dam.

STATION NO. 74 REGION NO. 2 COUNTY Santa Clara

AT RIVER MILE 10.5 SEC. 29, T 8 S, R 1 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-123 TABLE 2

STATION Napa River near St. Helena

SAMPLING POINT At bridge which is located 1.3 miles northeast of Highway 128 on Zinfandel Lane and 2.5 miles east of St. Helena. Gage located 0.2 mile upstream from bridge.

STATION NO. 72 REGION NO. 2 COUNTY Napa

AT RIVER MILE _____ SEC. 33, T 8 N, R 5 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-125 TABLE 2

TABLE 3

SAMPLING STATION DATA
CENTRAL COASTAL REGION

STATION Carmel River near Carmel

SAMPLING POINT right bank about 30 feet below Rancho San Carlos bridge about 3 miles east of Carmel.

STATION NO. 83 REGION NO. 3 COUNTY Monterey

AT RIVER MILE _____ SEC. 17, T 16 S, R 1 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-127 TABLE 3

STATION Pajaro River near Chittenden

SAMPLING POINT right bank at Highway Bridge on Chittenden Road at Santa Cruz-San Benito County line, 1 mile southeast of Chittenden and 2.5 miles downstream from San Benito River.

STATION NO. 77 REGION NO. 3 COUNTY Santa Cruz

AT RIVER MILE _____ SEC. 12, T 12 S, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-129 TABLE 3

# TABLE 3

## SAMPLING STATION DATA
## CENTRAL COASTAL REGION

STATION San Lorenzo River at Big Trees (near Felton)

SAMPLING POINT at Sequoia Gardens Resort on right bank 1.7 miles south of Felton West of State Highway 9.

STATION NO. 75 REGION NO. 3 COUNTY Santa Cruz

AT RIVER MILE 6.5 SEC. 26, T 10 S, R 2 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-131 TABLE 3

STATION Salinas River near Spreckles

SAMPLING POINT from right bank at USGS gaging station located four miles south of Salinas, two miles west of Spreckles and 80' upstream from South Salinas-Monterey Highway bridge.

STATION NO. 43* REGION NO. 3 COUNTY Monterey

AT RIVER MILE 12.5 SEC. 8, T 15 S, R 3 E, MDB&M

SAMPLED BY BSE-Berkeley

ANALYSIS ON PAGE A-133 TABLE 3

* No report since December, 1955.

TABLE 3

SAMPLING STATION DATA
CENTRAL COASTAL REGION

STATION Salinas River at Paso Robles

SAMPLING POINT from left bank just upstream from USGS gage on State Highway 41 bridge at Paso Robles, 3.5 mile upstream from Huerhuero Creek.

STATION NO. 43a REGION NO. 3 COUNTY San Luis Obispo

AT RIVER MILE 121.7 SEC. 33, T 26 S, R 12 E, MDB&M

SAMPLED BY BSE-Santa Barbara

ANALYSIS ON PAGE A-134 TABLE 3

STATION Santa Ynez River below Gibraltar Dam

SAMPLING POINT from left bank at USGS gage 700 feet downstream from Gibraltar Dam and 7 miles north of Santa Barbara.

STATION NO. 44* REGION NO. 3 COUNTY Santa Barbara

AT RIVER MILE 70.5 SEC. 10, T 5 N, R 27 W, SBB&M

SAMPLED BY BSE-Santa Barbara

ANALYSIS ON PAGE A-136 TABLE 3

* Discontinued in March, 1956.

TABLE 3

SAMPLING STATION DATA
CENTRAL COASTAL REGION

STATION Santa Ynez River below Los Laureles Canyon

SAMPLING POINT from left bank at USGS gage located 0.1 mile downstream from Los Laureles Canyon and 13 miles east of Santa Ynez.

STATION NO. 45 REGION NO. 3 COUNTY Santa Barbara

AT RIVER MILE 51 SEC. 6, T 5 N, R 28 W, SBB&M

SAMPLED BY BSE-Santa Barbara

ANALYSIS ON PAGE A-138 TABLE 3

STATION Santa Ynez River at Solvang

SAMPLING POINT from right bank near USGS gage at Mission Bridge 25 feet downstream from Alisal Creek and 0.9 mile south of Solvang.

STATION NO. 45a REGION NO. 3 COUNTY Santa Barbara

AT RIVER MILE 35 SEC. 22, T 6 N, R 31 W, SBB&M

SAMPLED BY BSE-Santa Barbara

ANALYSIS ON PAGE A-140 TABLE 3

TABLE 3

SAMPLING STATION DATA
CENTRAL COASTAL REGION

STATION Soquel Creek at Soquel

SAMPLING POINT from left bank at foot of gage, 0.25 mile upstream from bridge on Old Santa Cruz Highway.

STATION NO. 76 REGION NO. 3 COUNTY Santa Cruz

AT RIVER MILE 1.4 SEC. 10, T 11 S, R 1 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-142 TABLE 3

STATION Uvas Creek near Morgan Hill

SAMPLING POINT from right bank at foot of gage, 500 feet upstream from Uvas Dam, 0.6 mile downstream from Eastman Canyon and 4.8 miles southwest of Morgan Hill.

STATION NO. 96 REGION NO. 3 COUNTY Santa Clara

AT RIVER MILE _____ SEC. 18, T 10 S, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-144 TABLE 3

TABLE 4

SAMPLING STATION DATA
LOS ANGELES REGION

STATION Los Angeles River at Los Angeles

SAMPLING POINT USGS and LACFCD gaging station at Figueroa Street bridge, 0.1 mile upstream from Arroyo Seco confluence.

STATION NO. 47 REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE 26 SEC. 15, T 1 S, R 13 W, SBB&M

SAMPLED BY LAPH and DWR, Los Angeles (May and September)

ANALYSIS ON PAGE A-147 TABLE 4

STATION Los Angeles River at Long Beach

SAMPLING POINT Highway 101 (State Street) Bridge, sampled from left bank just downstream from bridge. LACFCD gage at Wardlow Ave. 2 mile upstream.

STATION NO. 48 REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE 1.8 SEC. 26, T 4 S, R 13 W, SBB&M

SAMPLED BY LBPH and DWR, Los Angeles (May and September)

ANALYSIS ON PAGE A-149 TABLE 4

## TABLE 4

### SAMPLING STATION DATA
### LOS ANGELES REGION

STATION Matilija Creek above Matilija Dam

SAMPLING POINT left bank at USGS Gaging Station 1.7 miles northwest of Matilija and 2 miles upstream from Matilija Dam.

STATION NO. 45b REGION NO. 4 COUNTY Ventura

AT RIVER MILE 2.5 SEC. 19, T 5 N, R 23 W, SBB&M

SAMPLED BY BSE-Santa Barbara

ANALYSIS ON PAGE A-151 TABLE 4

STATION Metropolitan Water District Aqueduct at La Verne

SAMPLING POINT Raw water inflow to Metropolitan Water District Treatment Plant (monthly composite sample)

STATION NO. 69 REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE _____ SEC. 6, T 1 S, R 9 W, SBB&M

SAMPLED BY MWD

ANALYSIS ON PAGE A-153 TABLE 4

TABLE 4

SAMPLING STATION DATA
LOS ANGELES REGION

STATION Mission Creek at Whittier Narrows

SAMPLING POINT 2 miles northeast of Montebello at LACFCD gaging station 200 yards upstream from San Gabriel Boulevard bridge. Sampled from right bank at gage.

STATION NO. 49a REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE 1.7 SEC. 6, T 2 S, R 11 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-155 TABLE 4

STATION Mono-Owens Aqueduct near San Fernando

SAMPLING POINT at inlet to Upper San Fernando Reservoir

STATION NO. 70 REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE Aqueduct SEC. 30, T 3 N, R 15 W, SBB&M

SAMPLED BY LADWP

ANALYSIS ON PAGE A-157 TABLE 4

## TABLE 4

### SAMPLING STATION DATA
### LOS ANGELES REGION

STATION Rio Hondo at Whittier Narrows

SAMPLING POINT right bank, 125 yards upstream from San Gabriel Boulevard bridge. Sampled at LACFCD gaging station.

STATION NO. 49 REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE 9.5 SEC. 6, T 2 S, R 11 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-159 TABLE 4

STATION San Gabriel River at Whittier Narrows

SAMPLING POINT from right bank 200 feet beyond end of San Gabriel Boulevard extended (Syphon Road) upstream from Whittier Narrows Dam.

STATION NO. 50 REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE 19.7 SEC. 5, T 2 S, R 11 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-161 TABLE 4

TABLE 4

SAMPLING STATION DATA
LOS ANGELES REGION

STATION San Gabriel River near Azusa

SAMPLING POINT at USGS gaging station 3 miles northeast of Azusa, 1 mile below Morris Dam. Sampled from right bank at gage.

STATION NO. 50a REGION NO. 4 COUNTY Los Angeles

AT RIVER MILE 38 SEC. 13, T 1 N, R 10 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-163 TABLE 4

STATION Santa Clara River at Los Angeles-Ventura County line

SAMPLING POINT 1/2 mile west of Los Angeles-Ventura County line and 1/2 mile upstream from Ventura County gage. Sampled from left bank at Newhall Ranch road crossing.

STATION NO. 46 REGION NO. 4 COUNTY Ventura

AT RIVER MILE 40 SEC. 19, T 4 N, R 17 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-165 TABLE 4

TABLE 4

SAMPLING STATION DATA
LOS ANGELES REGION

STATION Santa Clara River near Santa Paula

SAMPLING POINT station located 1.5 miles upstream from Santa Paula bridge (Willard Bridge) and 100 feet north of South Mountain Road. Sampled from left bank.

STATION NO. 46a REGION NO. 4 COUNTY Ventura

AT RIVER MILE 17 SEC. 12, T 3 N, R 21 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-167 TABLE 4

STATION Santa Clara River at Blue Cut

SAMPLING POINT 1 mile downstream from station 46 at Tapo Canyon pipe and road crossing and 1/2 mile downstream from Ventura County gaging station. Sampled downstream from road culvert.

STATION NO. 46b REGION NO. 4 COUNTY Ventura

AT RIVER MILE 39 SEC. 25, T 4 N, R 18 W, SBB&M

SAMPLED BY DWR-Los Angeles; Sampled May and September

ANALYSIS ON PAGE A-169 TABLE 4

TABLE 4

SAMPLING STATION DATA
LOS ANGELES REGION

STATION Ventura River near Ventura

SAMPLING POINT Station located at USGS gage in Foster Memorial Park on right bank, 5 miles north of Ventura, 300 feet downstream from highway 150 bridge.

STATION NO. 61 REGION NO. 4 COUNTY Ventura

AT RIVER MILE 6.0 SEC. 8, T 3 N, R 23 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-171 TABLE 4

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION American River at Sacramento

SAMPLING POINT at "H" Street bridge, water stage recorder located on left bank on upstream side of bridge.

STATION NO. 22 REGION NO. 5 COUNTY Sacramento

AT RIVER MILE 6.5 SEC. 1, T 8 N, R 5 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-173 TABLE 5

STATION Bear Creek near Stevinson

SAMPLING POINT Right bank 4.5 miles southeast of Stevinson at washed out wooden bridge.

STATION NO. 111 REGION NO. 5 COUNTY Merced

AT RIVER MILE 0.15 SEC. 36, T 7 S, R 10 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-175 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Bear River near Wheatland

SAMPLING POINT left bank, 30 feet downstream from gage located on downstream side of bridge on U. S. Highway 99E 1 mile southeast of Wheatland.

STATION NO. 78 REGION NO. 5 COUNTY Placer

AT RIVER MILE 10 SEC. 3, T 13 N, R 5 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-177 TABLE 5

STATION Big Chico Creek near Chico

SAMPLING POINT right bank at staff gage located one mile upstream from golf course clubhouse in Bidwell Park and 6 miles northeast of Chico.

STATION NO. 85 REGION NO. 5 COUNTY Butte

AT RIVER MILE 12.9 SEC. 9, T 22 N, R 2 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-179 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Burney Creek near Burney

SAMPLING POINT Timber bridge on Jack Rabbit Flat Road. 1.5 miles west of Burney on Highway 299.

STATION NO. 170 REGION NO. 5 COUNTY Shasta

AT RIVER MILE 13 SEC. 18, T 35 N, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-181 TABLE 5

STATION Butte Creek near Chico

SAMPLING POINT Right bank at foot of gage 0.5 mile downstream from Little Butte Creek and 7.5 miles east of Chico.

STATION NO. 84 REGION NO. 5 COUNTY Butte

AT RIVER MILE _____ SEC. 36, T 22 N, R 2 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-183 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Cache Creek near Capay

SAMPLING POINT Right bank at gage located 3 miles northwest of Capay and 2 miles upstream from Clear Lake Water Company's diversion dam.

STATION NO. 80 REGION NO. 5 COUNTY Yolo

AT RIVER MILE _____ SEC. 8, T 10 N, R 2 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-185 TABLE 5

STATION Cache Creek near Lower Lake

SAMPLING POINT Left bank at foot of gage about 500 feet downstream from dam and about 3.5 miles southeast of State Highway 53.

STATION NO. 42 REGION NO. 5 COUNTY Lake

AT RIVER MILE _____ SEC. 6, T 12 N, R 6 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-187 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Cache Creek, North Fork, near Lower Lake

SAMPLING POINT bridge on State Highway 20 between Williams and Clear Lake. Gage located on right bank 2.7 miles northwest of bridge.

STATION NO. 79 REGION NO. 5 COUNTY Lake

AT RIVER MILE 3.0 SEC. 31, T 14 N, R 6 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-189 TABLE 5

STATION Calaveras River near Jenny Lind

SAMPLING POINT from right bank about 150 feet downstream from USGS gage. Gage located 70 feet below bridge on Milton Road, 0.2 mile south of Jenny Lind.

STATION NO. 16a REGION NO. 5 COUNTY Calaveras

AT RIVER MILE 36.7 SEC. 27, T 3 N, R 10 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-191 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Clear Lake near Clearlake Oaks

SAMPLING POINT at Gordy's Fish Harbor Motel at Glen Haven, 3.6 miles northwest of Clearlake Oaks.

STATION NO. 40 REGION NO. 5 COUNTY Lake

AT RIVER MILE _____ SEC. 27, T 14 N, R 8 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-193 TABLE 5

STATION Clear Lake at Lakeport

SAMPLING POINT end of pier at foot of 3rd Street at North end of park. Staff gage located on piling at end of pier.

STATION NO. 41 REGION NO. 5 COUNTY Lake

AT RIVER MILE _____ SEC. 24, T 14 N, R 10 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-195 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION Colusa Trough near Colusa

SAMPLING POINT Colusa-Williams highway bridge, 3 miles west of Colusa. Water stage recorder on upstream side of bridge.

STATION NO. 87 REGION NO. 5 COUNTY Colusa

AT RIVER MILE _____ SEC. 34, T 16 N, R 2 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-197 TABLE 5

STATION Cosumnes River near Michigan Bar

SAMPLING POINT Michigan Bar road bridge about 1 mile north of Michigan Bar.

STATION NO. 94 REGION NO. 5 COUNTY Sacramento

AT RIVER MILE _____ SEC. 36, T 8 N, R 8 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-199 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Cottonwood Creek near Cottonwood

SAMPLING POINT Right bank at gage house located 2 miles east of Cottonwood.

STATION NO. 12b REGION NO. 5 COUNTY Shasta

AT RIVER MILE 2.5 SEC. 7, T 29 N, R 3 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-201 TABLE 5

STATION Deer Creek near Vina

SAMPLING POINT Left bank under U. S. Highway 99E bridge 1 mile north of Vina. DWR gage located approximately 400' downstream from 99E bridge on left bank.

STATION NO. 95 REGION NO. 5 COUNTY Tehama

AT RIVER MILE _____ SEC. 14, T 24 N, R 2 W MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-203 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Delta-Cross Channel near Walnut Grove

SAMPLING POINT left bank 0.2 mile downstream from gates when gates are open and from highway bridge when gates are closed.

STATION NO. 98 REGION NO. 5 COUNTY Sacramento

AT RIVER MILE _____ SEC. 35, T 5 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-205 TABLE 5

STATION Delta-Mendota Canal near Mendota

SAMPLING POINT right bank one mile upstream from canal gates and 2 miles north of Mendota on Bass Road.

STATION NO. 92 REGION NO. 5 COUNTY Fresno

AT RIVER MILE _____ SEC. 19, T 13 S, R 15 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-207 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Delta-Mendota Canal near Tracy

SAMPLING POINT Left bank downstream from Byron-Bethany road cross-over, about 1 mile from Tracy Pumping Plant, about 10 miles northwest of Tracy.

STATION NO. 93 REGION NO. 5 COUNTY Contra Costa

AT RIVER MILE _____ SEC. 30, T 1 S, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-209 TABLE 5

STATION Feather River at Nicolaus

SAMPLING POINT Left bank at gage located 0.5 miles downstream from highway bridge at Nicolaus.

STATION NO. 20 REGION NO. 5 COUNTY Sutter

AT RIVER MILE 9.3 SEC. 12, T 12 N, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-211 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Feather River near Oroville

SAMPLING POINT left bank at gage located 75 feet upstream from bridge on Feather River Highway (State Highway 24), two miles downstream from confluence of North and Middle Forks and 4 miles northeast of Oroville.

STATION NO. 19 REGION NO. 5 COUNTY Butte

AT RIVER MILE 71.0 SEC. 2, T 19 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-213 TABLE 5

STATION Honcut Creek, South, near Bangor

SAMPLING POINT Right bank at foot of gage located 100 feet upstream from Brown's Valley-Bangor road bridge and 2.5 miles southeast of Bangor.

STATION NO. 90 REGION NO. 5 COUNTY Butte

AT RIVER MILE _____ SEC. 35, T 18 N, R 5 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-215 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Indian Creek near Crescent Mills

SAMPLING POINT at bridge about 1 mile above gage which is located 0.8 mile upstream from Dixie Creek and 1.5 miles south of town of Crescent Mills.

STATION NO. 17d REGION NO. 5 COUNTY Plumas

AT RIVER MILE _____ SEC. 25, T 26 N, R 9 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-217 TABLE 5

STATION Indian Slough near Brentwood

SAMPLING POINT East Contra Costa Irrigation District canal at the District's Pump No. 1 on Bixler Road at the head of Indian Slough, 3 miles north of Byron.

STATION NO. 107 REGION NO. 5 COUNTY Contra Costa

AT RIVER MILE _____ SEC. 22, T 1 N, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-219 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Italian Slough near Mouth

SAMPLING POINT Boat landing on right bank at confluence of slough and Old River about 3 miles southeast of Byron.

STATION NO. 106 REGION NO. 5 COUNTY Contra Costa

AT RIVER MILE 1.5 SEC. 7, T 1 S, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-221 TABLE 5

STATION Kaweah River near Three Rivers

SAMPLING POINT Left bank at gage located 2.5 miles downstream from South Fork and 3 miles southwest of Three Rivers on Highway 198 approximately 0.5 mile past Cobbles Lodge.

STATION NO. 35 REGION NO. 5 COUNTY Tulare

AT RIVER MILE _____ SEC. 33, T 17 S, R 28 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-223 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Kern River near Bakersfield

SAMPLING POINT Diversion weir located at mouth of lower canyon five miles northeast of Bakersfield.

STATION NO. 36 REGION NO. 5 COUNTY Kern

AT RIVER MILE _____ SEC. 2, T 29 S, R 28 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-225 TABLE 5

STATION Kern River below Isabella Dam

SAMPLING POINT Right bank, 500 feet downstream from outfall tunnel.

STATION NO. 36a REGION NO. 5 COUNTY Kern

AT RIVER MILE _____ SEC. 19, T 26 S, R 33 E, MDB&M

SAMPLED BY Corp of Engineers

ANALYSIS ON PAGE A-227 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION Kern River near Kernville

SAMPLING POINT At gage 3 miles upstream from Salmon Creek and 15 miles north of Kernville.

STATION NO. 36b REGION NO. 5 COUNTY Kern

AT RIVER MILE _____ SEC. 14, T 23 S, R 23 E, MDB&M

SAMPLED BY Corps of Engineers

ANALYSIS ON PAGE A-229 TABLE 5

STATION Kings River below North Fork

SAMPLING POINT from bridge at midstream 0.8 mile downstream from North Fork.

STATION NO. 33c REGION NO. 5 COUNTY Fresno

AT RIVER MILE _____ SEC. 21, T 12 S, R 26 E, MDB&M

SAMPLED BY Corp of Engineers

ANALYSIS ON PAGE A-231 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Kings River below Peoples Weir (near Kingsburg)

SAMPLING POINT at gage on left bank about 1/4 mile downstream from diversion weir, 2 miles south of Kingsburg and 12 miles northeast of Hanford.

STATION NO. 34 REGION NO. 5 COUNTY Kings

AT RIVER MILE 71 SEC. 1, T 17 S, R 22 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-233 TABLE 5

STATION Kings River below Pine Flat Dam

SAMPLING POINT Left bank, 3000 feet downstream from the dam.

STATION NO. 33b REGION NO. 5 COUNTY Fresno

AT RIVER MILE _____ SEC. 2, T 13 S, R 24 E, MDB&M

SAMPLED BY Corps of Engineers

ANALYSIS ON PAGE A-235 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Kings River above North Fork

SAMPLING POINT at bridge about 3/4 mile downstream from gage located on left bank one mile upstream from North Fork and 10 miles southeast of Trimmer. Discontinued in September 1955.

STATION NO. 33 REGION NO. 5 COUNTY Fresno

AT RIVER MILE 130 SEC. 27, T 12 S, R 26 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-237 TABLE 5

STATION Kings River at Piedra

SAMPLING POINT at damaged highway bridge about 1/2 mile upstream from gage located on left bank two miles downstream from Mill Creek and 12 miles northeast of Sanger. Discontinued in September 1955.

STATION NO. 33a REGION NO. 5 COUNTY Fresno

AT RIVER MILE 100 SEC. 8, T 13 S, R 24 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-238 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Lindsey Slough near Rio Vista

SAMPLING POINT from boat landing near gage located at Montezuma Ranch, headquarters of California Packing Corporation, six miles north of Rio Vista.

STATION NO. 110 REGION NO. 5 COUNTY Solano

AT RIVER MILE 1.1 SEC. 25, T 5 N, R 2 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-239 TABLE 5

STATION Little Potato Slough at Terminous

SAMPLING POINT from boat dock on east bank approximately 250' feet north of State Highway 12 Bridge.

STATION NO. 99 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE _____ SEC. 13, T 3 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-241 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION McCloud River above Shasta Lake

SAMPLING POINT Left bank below gage located just upstream from Shasta Lake, 0.3 mile downstream from Bollibokka Creek and 11 miles east of Delta. Stream confined in a steep rocky canyon. Station inaccessible by road. One and one-half hour walk to station.

STATION NO. 18 REGION NO. 5 COUNTY Shasta

AT RIVER MILE _____ SEC. 28, T 36 N, R 3 W, MDB&M

SAMPLED BY BSE-Redding

ANALYSIS ON PAGE A-243 TABLE 5

STATION Merced River below Exchequer Dam

SAMPLING POINT Right bank at foot of gage located at Exchequer, 0.5 miles downstream from Lake McClure and 5 miles northeast of Merced Falls.

STATION NO. 32a REGION NO. 5 COUNTY Mariposa

AT RIVER MILE 59 SEC. 14-23 T 4 S, R 15 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-245 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Merced River near Stevinson

SAMPLING POINT from right bank approximately 100 feet upstream from gage. Gage located 6 miles northwest of Stevinson.

STATION NO. 32 REGION NO. 5 COUNTY Merced

AT RIVER MILE 4.6 SEC. 36, T 6 S, R 9 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-247 TABLE 5

STATION Mill Creek near Los Molinos

SAMPLING POINT right bank below highway 99E bridge, 1.5 mile north of Los Milinos. Gage located downstream from bridge.

STATION NO. 88 REGION NO. 5 COUNTY Tehama

AT RIVER MILE SEC. 9, T 25 N, R 2 W MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-249 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION Mokelumne River near Lancha Plana

SAMPLING POINT Left bank near gage, located 1 mile east of Lancha Plana, 3 miles downstream from Pardee Dam and 5 miles upstream from Camanche Creek.

STATION NO. 23a REGION NO. 5 COUNTY Amador

AT RIVER MILE 52 SEC. 4, T 4 N, R 10 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-251 TABLE 5

STATION Mokelumne River at Woodbridge

SAMPLING POINT Left bank at foot of gage house located 0.4 mile downstream from dam and canal intake of woodbridge Irrigation District.

STATION NO. 23 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 19.2 SEC. 34, T 4 N, R 6 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-253 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION Old River at Clifton Court Ferry

SAMPLING POINT from ferry at left bank about 10 miles northwest of Tracy and 6 miles southeast of Byron. Gage located on left bank 0.3 mile upstream from Ferry.

STATION NO. 104 REGION NO. 5 COUNTY San Joaquin - Contra Costa Co. line

AT RIVER MILE 20.5 SEC. 20, T 1 S, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-255 TABLE 5

STATION Old River at Mandeville Island

SAMPLING POINT at right bank at northwest side of Mandeville Island.

STATION NO. 112 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 0.5 SEC. 6, T 2 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-257 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Old River at Orwood Bridge

SAMPLING POINT Boat dock on right bank at Atchison Topeka & Santa Fe Rialroad bridge about 6 miles northeast of Byron.

STATION NO. 108 REGION NO. 5 COUNTY San Joaquin-Contra Costa Co. line

AT RIVER MILE 10.5 SEC. 17, T 1 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-259 TABLE 5

STATION Old River near Tracy

SAMPLING POINT Left bank at trash rack of pump intake at end of Lammers Road and about 5 miles northwest of Tracy.

STATION NO. 103 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 26 SEC. 6, T 2 S, R 5 E MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-261 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION Pit River near Canby

SAMPLING POINT about 500 feet downstream from bridge on U. S. Highway 299 located about 4.5 miles southwest of Canby. Water stage recorder located on right bank 0.5 mile upstream from bridge.

STATION NO. 17a REGION NO. 5 COUNTY Modoc

AT RIVER MILE 141 SEC. 10, T 41 N, R 9 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-263 TABLE 5

STATION Pit River near Montgomery Creek

SAMPLING POINT right bank about 125 feet upstream from gage, located one mile upstream from Cow Canyon Creek and 3.5 miles west of town of Montgomery Creek.

STATION NO. 17 REGION NO. 5 COUNTY Shasta

AT RIVER MILE 29 SEC. 32, T 35 N, R 1 W, MDB&M

SAMPLED BY BSE-Redding

ANALYSIS ON PAGE A-265 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Putah Creek near Winters

SAMPLING POINT Left bank 50 feet below gage located 8.2 miles west of Winters on State Highway 128.

STATION NO. 81 REGION NO. 5 COUNTY Yolo

AT RIVER MILE _____ SEC. 28, T 8 N, R 2 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-267 TABLE 5

STATION Rock Slough near Knightsen

SAMPLING POINT Tule Lane bridge at head of slough 300 feet south of gates of Contra Costa Canal intake and two miles northeast of Knightsen.

STATION NO. 109 REGION NO. 5 COUNTY Contra Costa

AT RIVER MILE _____ SEC. 34, T 2 N, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-269 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Sacramento River at Delta

SAMPLING POINT right bank 50 feet upstream from gage, located 0.2 mile downstream from Dog Creek and 0.6 mile southeast of Delta.

STATION NO. 11 REGION NO. 5 COUNTY Shasta

AT RIVER MILE 349 SEC. 35, T 36 N, R 5 W, MDB&M

SAMPLED BY BSE-Redding

ANALYSIS ON PAGE A-271 TABLE 5

STATION Sacramento River near Hamilton City

SAMPLING POINT at Gianella Bridge on State Highway 32 between Hamilton City and Chico. Sampled from each channel from bridge (composite of two samples). Gage on left bank on downstream side of bridge.

STATION NO. 13 REGION NO. 5 COUNTY Glenn

AT RIVER MILE 201 SEC. 20, T 22 N, R 1 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-273 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Sacramento River at Keswick

SAMPLING POINT From left bank about 100 feet upstream from gage located 0.6 mile downstream from Keswick Dam, 0.6 mile upstream from Middle Creek, 1.5 mile downstream from Keswick and 10 miles downstream from Shasta Dam.

STATION NO. 12 REGION NO. 5 COUNTY Shasta

AT RIVER MILE 309 SEC. 28, T 32 N, R 5 W, MDB&M

SAMPLED BY BSE-Redding

ANALYSIS ON PAGE A-275 TABLE 5

STATION Sacramento River at Knights Landing

SAMPLING POINT From highway bridge. Water stage recorder 0.3 mile downstream from bridge. Composite of two samples.

STATION NO. 14 REGION NO. 5 COUNTY Yolo

AT RIVER MILE 98.9 SEC. 14, T 11 N, R 2 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-277 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Sacramento River near Redding

SAMPLING POINT From right bank 500 feet downstream from gage located below Anderson-Cottonwood diversion dam.

STATION NO. 12a REGION NO. 5 COUNTY Shasta

AT RIVER MILE 306 SEC. 18, T 31 N, R 4 W, MDB&M

SAMPLED BY BSE-Redding

ANALYSIS ON PAGE A-279 TABLE 5

STATION Sacramento River at Rio Vista

SAMPLING POINT From right bank at pier at upstream side of U. S. Department of Army installation located about 1 mile downstream from Rio Vista. Tidal gage located near administration building about 1,500 feet downstream from sampling point.

STATION NO. 16 REGION NO. 5 COUNTY Solano

AT RIVER MILE 14.3 SEC. 31, T 4 N, R 3 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-281 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Sacramento River at Sacramento

SAMPLING POINT from U. S. Highway 40 at Tower Bridge. Water stage recorder located on left bank 0.3 mile upstream from bridge. Composite of three samples.

STATION NO. 15 REGION NO. 5 COUNTY Sacramento

AT RIVER MILE 62.5 SEC. 35, T 9 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-283 TABLE 5

STATION Sacramento River at Snodgrass Slough

SAMPLING POINT at gage on left bank, 2 miles north of Courtland.

STATION NO. 97 REGION NO. 5 COUNTY Sacramento

AT RIVER MILE _____ SEC. 27, T 6 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-285 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Sacramento Slough near Knights Landing

SAMPLING POINT From pond near discharge pipes from pumps below gage located on levee near Reclamation District 1500 pumping plant.

STATION NO. 14a REGION NO. 5 COUNTY Sutter

AT RIVER MILE 1.0 SEC. 20 T 11 N R 3 E MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-287 TABLE 5

STATION San Joaquin River at Antioch

SAMPLING POINT From pier at old Antioch Water Works on Fulton Shipyard Road. Tidal gage located in house at end of pier.

STATION NO. 28 REGION NO. 5 COUNTY Contra Costa

AT RIVER MILE 4.5 SEC. 13 T 2 N R 2 E MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-289 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION San Joaquin River near Dos Palos

SAMPLING POINT from bridge at head of Temple Slough, 6.3 miles east of Dos Palos. Gage located 0.7 mile downstream.

STATION NO. 25a REGION NO. 5 COUNTY Fresno

AT RIVER MILE 186.0 SEC. 12 T 11 S, R 13 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-291 TABLE 5

STATION San Joaquin River at Friant

SAMPLING POINT from left bank 100 feet downstream from gage house located 0.5 mile west of Friant and 2 miles downstream from Friant Dam.

STATION NO. 24 REGION NO. 5 COUNTY Fresno

AT RIVER MILE 268.13 SEC. 7, T 11 S, R 21 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-293 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION San Joaquin River at Garwood Bridge

SAMPLING POINT From boat landing on left bank near upstream side of bridge on Stockton-Byron Road. Gage located at right bank on Brandts Bridge 5 miles upstream from Garwood bridge.

STATION NO. 101 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 42.1 SEC. 16 T 1 N, R 6 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-295 TABLE 5

STATION San Joaquin River near Grayson

SAMPLING POINT from Laird Slough bridge. Water stage recorder located on bridge near left bank.

STATION NO. 26 REGION NO. 5 COUNTY Stanislaus

AT RIVER MILE 93.6 SEC. 24, T 4 S, R 7 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-297 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION San Joaquin River at Maze Road bridge

SAMPLING POINT from boat dock on left bank, 300 feet upstream from Maze Road bridge (State Highway 132), at El Solyo Ranch pump intake. Gage on left bank approximately 0.5 mile upstream from bridge.

STATION NO. 26a REGION NO. 5 COUNTY Stanislaus

AT RIVER MILE 82.65 SEC. 29, T 3 S, R 7 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-299 TABLE 5

STATION San Joaquin River near Mendota

SAMPLING POINT from left bank at foot of gage house, 2.5 miles upstream from Mendota Dam and 4 miles north of Mendota on Base Road.

STATION NO. 25 REGION NO. 5 COUNTY Fresno

AT RIVER MILE 206.2 SEC. 7, T 13 S, R 15 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-301 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION San Joaquin River at Mossdale Bridge

SAMPLING POINT From boat landing on left bank just downstream from Mossdale Bridge on U. S. Highway 50 located about 12 miles south of Stockton and 7 miles northeast of Tracy. Gage located on right bank just downstream from bridge.

STATION NO. 102 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 56 SEC. 4, T 2 S, R 6 E MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-303 TABLE 5

STATION San Joaquin River near Vernalis

SAMPLING POINT from Durham Ferry Highway bridge located 3.4 miles northeast of Vernalis. Water stage recorder located on left bank on upstream side bridge.

STATION NO. 27 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 76.7 SEC. 13 T 3 S, R 6 E MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-305 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION Stanislaus River near Knights Ferry

SAMPLING POINT left bank, tunnel intake, above construction of Tulloch Dam.

STATION NO. 29a REGION NO. 5 COUNTY Tuolumne

AT RIVER MILE _____ SEC. 1, T 1 S, R 12 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-307 TABLE 5

STATION Stanislaus River near Mouth

SAMPLING POINT from right bank at foot of gage house. 2.9 miles above the mouth.

STATION NO. 29 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 3.5 SEC. 17, T 3 S, R 7 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-308 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Stockton Ship Channel on Rindge Island

SAMPLING POINT From boat landing on right bank of ship channel at south-east corner of Rindge Tract near junction of Fourteen Mile Slough.

STATION NO. 100 REGION NO. 5 COUNTY San Joaquin

AT RIVER MILE 34 SEC. 27 T 2 N, R 5 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-310 TABLE 5

STATION Stony Creek near Hamilton City

SAMPLING POINT From right bank at gage located 2.5 miles southwest of Hamilton City and 8 miles of Orland.

STATION NO. 13a REGION NO. 5 COUNTY Glenn

AT RIVER MILE 6.0 SEC. 36 T 22 N, R 2 W, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-312 TABLE 5

## TABLE 5

### SAMPLING STATION DATA
### CENTRAL VALLEY REGION

STATION Tule River near Porterville

SAMPLING POINT from County road bridge, 0.1 mile upstream from South Fork and 6 miles east of Porterville. Water stage recorder on downstream side of bridge across from Bartlett Park.

STATION NO. 91 REGION NO. 5 COUNTY Tulare

AT RIVER MILE _____ SEC. 25, T 21 S, R 28 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-314 TABLE 5

STATION Tuolumne River below Don Pedro Dam

SAMPLING POINT left bank, 1/4 mile downstream from dam.

STATION NO. 31a REGION NO. 5 COUNTY Tuolumne

AT RIVER MILE 50 SEC. 3, T 3 S, R 14 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-316 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Tuolumne River at Hickman-Waterford Bridge

SAMPLING POINT From Hickman-Waterford Bridge, about 1 mile north of Hickman. Water stage recorder is located on the downstream side of bridge.

STATION NO. 30 REGION NO. 5 COUNTY Stanislaus

AT RIVER MILE 31.7 SEC. 34, T 3 S, R 11 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-318 TABLE 5

STATION Tuolumne River at La Grange

SAMPLING POINT Sampled from highway bridge at La Grange. Discontinued July, 1956.

STATION NO. 31b REGION NO. 5 COUNTY Stanislaus

AT RIVER MILE _____ SEC. 20, T 3 S, R 14 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-320 TABLE 5

TABLE 5

SAMPLING STATION DATA
CENTRAL VALLEY REGION

STATION Tuolumne River at Tuolumne City

SAMPLING POINT From highway bridge on Shiloh Road. Water stage recorder located on right bank beneath bridge.

STATION NO. 31 REGION NO. 5 COUNTY Stanislaus

AT RIVER MILE 3.35 SEC. 7, T 4 S, R 8 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-322 TABLE 5

STATION Yuba River at Marysville

SAMPLING POINT From center of Simpson Lane Bridge at Marysville. From November 1956 sampled just below USGS gage on left bank 1/4 mile downstream from Simpson Lane Bridge.

STATION NO. 21 REGION NO. 5 COUNTY Yuba

AT RIVER MILE 2 SEC. 18, T 15 N, R 4 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-324 TABLE 5

# TABLE 5

## SAMPLING STATION DATA
## CENTRAL VALLEY REGION

STATION Yuba River near Smartville

SAMPLING POINT From right bank, one-half mile downstream from Highway 20 bridge about 5 miles below Narrows Dam and about 4 miles below confluence of Deer Creek.

STATION NO. 21a REGION NO. 5 COUNTY Yuba

AT RIVER MILE 25 SEC. 14, T 16 N, R 6 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-326 TABLE 5

TABLE 6

SAMPLING STATION DATA
LAHONTAN REGION

STATION Lake Tahoe at Tahoe Vista

SAMPLING POINT from pier, 0.1 mile west of Tahoe Vista and eight miles northeast of Tahoe City.

STATION NO. 37 REGION NO. 6 COUNTY Placer

AT RIVER MILE _____ SEC. 14, T 16 N, R 17 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-327 TABLE 6

STATION Lake Tahoe at Tahoe City

SAMPLING POINT upstream from control gates of Truckee River upstream from State Highway 89.

STATION NO. 38 REGION NO. 6 COUNTY Placer

AT RIVER MILE _____ SEC. 7, T 15 N, R 17 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-329 TABLE 6

TABLE 6

SAMPLING STATION DATA
LAHONTAN REGION

STATION Lake Tahoe at Bijou

SAMPLING POINT from Connolly's Resort pier at Bijou

STATION NO. 39 REGION NO. 6 COUNTY El Dorado

AT RIVER MILE _____ SEC. 35, T 13 N, R 18 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-331 TABLE 6

STATION Mojave River near Victorville

SAMPLING POINT left bank at USGS gage, 3 miles northwest of Victorville and 500 feet upstream from U. S. Highway 66 bridge across Lower Narrows.

STATION NO. 67 REGION NO. 6 COUNTY San Bernardino

AT RIVER MILE 95 from Soda Lake SEC. 29, T 6 N, R 4 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-333 TABLE 6

TABLE 6

SAMPLING STATION DATA
LAHONTAN REGION

STATION Susan River at Susanville

SAMPLING POINT Sampled from left bank at foot of USGS gage, 0.5 mile west of Susanville and 1.1 mile upstream from Piute Creek.

STATION NO. 17b REGION NO. 6 COUNTY Lassen

AT RIVER MILE 24 SEC. 31, T 30 N, R 12 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-335 TABLE 6

STATION Truckee River near Truckee

SAMPLING POINT from left bank at gage, 1.4 mile upstream from Donner Creek and 2.5 miles southwest of Truckee.

STATION NO. 52 REGION NO. 6 COUNTY Placer

AT RIVER MILE _____ SEC. 28, T 17 N, R 16 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-337 TABLE 6

TABLE 6

SAMPLING STATION DATA
LAHONTAN REGION

STATION Truckee River near Farad

SAMPLING POINT from left bank at foot of gage, two miles from California-Nevada state line on U. S. Highway 40.

STATION NO. 53 REGION NO. 6 COUNTY Nevada

AT RIVER MILE _____ SEC. 29, T 18 N, R 18 E, MDB&M

SAMPLED BY DWR-Sacramento

ANALYSIS ON PAGE A-339 TABLE 6

TABLE 7

SAMPLING STATION DATA
COLORADO RIVER BASIN REGION

STATION Alamo River at International Boundary

SAMPLING POINT between All American Canal and International Boundary, upstream from canal seepage pipes. Imperial Irrigation District Station AR-1

STATION NO. 59 REGION NO. 7 COUNTY Imperial

AT RIVER MILE 51 SEC. 18, T 17 S, R 16 E, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-341 TABLE 7

STATION Alamo River near Calipatria

SAMPLING POINT left bank 6.2 miles north of Westmorland--Calipatria Highway, 0.4 mile downstream from lateral 3-road bridge at Imperial Irrigation District Station AR-17.

STATION NO. 60 REGION NO. 7 COUNTY Imperial

AT RIVER MILE 2.5 SEC. 15, T 11 S, R 13 E, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-343 TABLE 7

# TABLE 7

## SAMPLING STATION DATA
## COLORADO RIVER BASIN REGION

STATION All American Canal near Pilot Knob

SAMPLING POINT left bank just upstream from Highway 80 bridge, over canal, 5 miles west of Yuma Bridge. Imperial Irrigation District Station 1035 (lower slope).

STATION NO. 56a REGION NO. 7 COUNTY Imperial

AT RIVER MILE 20 SEC. 24, T 16 S, R 21 E, SBB&M

SAMPLED BY DWR-Los Angeles; Sampled May and September.

ANALYSIS ON PAGE A-345 TABLE 7

STATION Colorado River near Topock, Arizona

SAMPLING POINT USGS auxiliary gage on furthest downstream high pressure gas line bridge from Highway 66 bridge. Right bank, California side.

STATION NO. 54 REGION NO. 7 COUNTY San Bernardino

AT RIVER MILE 196* SEC. 8, T 7 N, R 24 E, SBB&M

SAMPLED BY DWR-Los Angeles; Sampled May and September

ANALYSIS ON PAGE A-346 TABLE 7

* From California-Arizona-Mexico Boundary junction.

TABLE 7

SAMPLING STATION DATA
COLORADO RIVER BASIN REGION

STATION Colorado River below Morelos Dam

SAMPLING POINT from left bank 1/4 mile downstream from Morelos Dam. Arizona side. The dam is approximately one mile downstream from California-Arizona-Mexico boundary junction.

STATION NO. 56b REGION NO. 7 COUNTY Yuma

AT RIVER MILE -1* SEC. 28, T 8 S, R 24 W, G&SRM

SAMPLED BY DWR-Los Angeles; Sampled May and September

ANALYSIS ON PAGE A-347 TABLE 7

* From California-Arizona-Mexico Boundary junction.

STATION Colorado River near Blythe

SAMPLING POINT at boat dock approximately one-half mile downstream from US 60-70 Highway bridge. Sampled from California side.

STATION NO. 56c REGION NO. 7 COUNTY Imperial

AT RIVER MILE 98* SEC. 2, T 7 S, R 23 E, SBB&M

SAMPLED BY DWR-Los Angeles; Sampled May and September

ANALYSIS ON PAGE A-348 TABLE 7

* From California-Arizona-Mexico Boundary junction.

# TABLE 7

## SAMPLING STATION DATA
## COLORADO RIVER BASIN REGION

STATION Colorado River at Parker Dam

SAMPLING POINT shore at right bank on California side 1 mile upstream from USGS gage. 3 miles downstream from Parker Dam; 11 miles northeast of Parker, Arizona. Sampled from River Lodge boat dock.

STATION NO. 55 REGION NO. 7 COUNTY San Bernardino

AT RIVER MILE 149.7* SEC. 16, T 2 N, R 27 E, SBB&M

SAMPLED BY DWR-Los Angeles; Sampled May and September

ANALYSIS ON PAGE A-349 TABLE 7

* From California-Arizona-Mexico Boundary junction.

STATION Colorado River at Yuma, Arizona

SAMPLING POINT left bank at old Highway 80 bridge. USGS gage is 0.4 mile downstream from sample point.

STATION NO. 56 REGION NO. 7 COUNTY Yuma

AT RIVER MILE 7.5* SEC. 36, T 16 S, R 22 E, G&SRM

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-350 TABLE 7

* From California-Arizona-Mexico Boundary junction.

TABLE 7

SAMPLING STATION DATA
COLORADO RIVER BASIN REGION

STATION Lake Havasu at Metropolitan Water District intake

SAMPLING POINT right bank at the MWD Intake, 1½ mile upstream from Parker Dam.

STATION NO. 56d REGION NO. 7 COUNTY San Bernardino

AT RIVER MILE 156* SEC. 28, T 3 N, R 27 E, SBB&M

SAMPLED BY MWD

ANALYSIS ON PAGE A-351 TABLE 7

* From California-Arizona-Mexico Boundary junction.

STATION New River International Boundary

SAMPLING POINT right bank at road bridge, 150 yards north of International boundary. Imperial Irrigation District Station NR-1.

STATION NO. 57 REGION NO. 7 COUNTY Imperial

AT RIVER MILE 56 SEC. 14, T 17 S, R 14 E, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-353 TABLE 7

# TABLE 7

## SAMPLING STATION DATA
## COLORADO RIVER BASIN REGION

STATION New River near Westmorland

SAMPLING POINT right bank 50 feet north of Vail Canal, 3 miles west of Calipatria-Westmorland Highway, 0.6 mile downstream from Trifolium #10 Road bridge. Imperial Irrigation District Station NR-17.

STATION NO. 58 REGION NO. 7 COUNTY Imperial

AT RIVER MILE 5 SEC. 30 T 12 S, R 13 E, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-355 TABLE 7

STATION Whitewater River at Whitewater

SAMPLING POINT 8 feet Cipoletti weir 1.6 mile upstream from Whitewater. 2 USGS gages, one on river and one on weir.

STATION NO. 68 REGION NO. 7 COUNTY Riverside

AT RIVER MILE 54 SEC. 2, T 3 S, R 3 E, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-357 TABLE 7

TABLE 8

SAMPLING STATION DATA
SANTA ANA REGION

STATION Chino Creek near Chino

SAMPLING POINT right bank 20 feet upstream from Pine Avenue Bridge approximately 5 miles southeast of Chino.

STATION NO. 86 REGION NO. 8 COUNTY San Bernardino

AT RIVER MILE 5 SEC. 36, T 2 S, R 8 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-359 TABLE 8

STATION Lake Elsinore north shore

SAMPLING POINT north shore of lake at USGS staff gage, approximately 0.5 mile south of junction of Riverside Drive and State Highway 71.

STATION NO. 89 REGION NO. 8 COUNTY Riverside

AT RIVER MILE SEC. 1, T 6 S, R 5 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-361 TABLE 8

# TABLE 8

## SAMPLING STATION DATA
## SANTA ANA REGION

STATION Santa Ana River near Arlington

SAMPLING POINT from right bank at Pedley Road bridge 75 feet upstream from USGS gage. 3.3 miles northeast of Arlington and 1/2 mile downstream from Riverside Sewage Treatment Plant.

STATION NO. 51* REGION NO. 8 COUNTY Riverside

AT RIVER MILE 44 SEC. 25, T 2 S, R 6 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-363 TABLE 8

* Discontinued September, 1955.

STATION Santa Ana River near Prado Dam

SAMPLING POINT from left bank, at USGS gage; 2500 feet downstream from Prado Dam; 4 mile west of Corona.

STATION NO. 51a REGION NO. 8 COUNTY Riverside

AT RIVER MILE 31.6 SEC. 29, T 3 S, R 7 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-364 TABLE 8

TABLE 8

SAMPLING STATION DATA
SANTA ANA REGION

STATION Santa Ana River near Mentone

SAMPLING POINT southern California Edison Company's Santa Ana River No. 3 Power Plant tailrace. 3.5 miles northeast of Mentone near mouth of Canyon.

STATION NO. 51b REGION NO. 8 COUNTY San Bernardino

AT RIVER MILE 72.7 SEC. 4, T 1 S, R 2 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-366 TABLE 8

STATION Santa Ana River at Riverside (MWD Blowoff)

SAMPLING POINT from left bank, 200 yeards upstream from Metropolitan Water District Aqueduct Crossing, and 0.5 miles upstream from Riverside Sewage Treatment Plant.

STATION NO. 51d REGION NO. 8 COUNTY Riverside

AT RIVER MILE 45.5 SEC. 30, T 2 S, R 5 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-368 TABLE 8

TABLE 8

SAMPLING STATION DATA
SANTA ANA REGION

STATION Santa Ana River at Norco

SAMPLING POINT at USGS summer gage just downstream from Hammer Ave. bridge on left bank.

STATION NO. 51e REGION NO. 8 COUNTY Riverside

AT RIVER MILE 38 SEC. 36, T 2 S, R 7 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-370 TABLE 8

STATION Warm Creek at Colton

SAMPLING POINT from right bank near USGS gage at "F" Street bridge, 1/4 mile north of U. S. Highway 99 and 0.4 mile east of Mt. Vernon Avenue, 1.2 mile east of Colton, 0.3 mile below San Bernardino Sewage Disposal Plant.

STATION NO. 50b REGION NO. 8 COUNTY San Bernardino

AT RIVER MILE 0.4 SEC. 21, T 1 S, R 4 W, SBB&M

SAMPLED BY DWR-Los Angeles to 7-11-55; 8-55 to date by City of San Bernardino

ANALYSIS ON PAGE A-372 TABLE 8

TABLE 8

SAMPLING STATION DATA
SANTA ANA REGION

STATION Warm Creek at San Bernardino

SAMPLING POINT from right bank beneath "E" Street bridge, 0.5 mile upstream from San Bernardino Sewage Disposal Plant.

STATION NO. 50c REGION NO. 8 COUNTY San Bernardino

AT RIVER MILE 1.4 SEC. 15, T 1 S, R 4 W, SBB&M

SAMPLED BY DWR-Los Angeles to 7-11-55; 8-55 to date by City of San Bernardino

ANALYSIS ON PAGE A-374 TABLE 8

TABLE 9

SAMPLING STATION DATA
SAN DIEGO REGION

STATION Escondido Creek near Harmony Grove

SAMPLING POINT Harmony Grove road culvert, 4 miles south of Escondido.

STATION NO. 63 REGION NO. 9 COUNTY San Diego

AT RIVER MILE 11.5 SEC. 30, T 12 S, R 2 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-377 TABLE 9

STATION San Diego River at Old Mission Dam

SAMPLING POINT from left bank just below Old Mission Dam, three miles west of Santee.

STATION NO. 65 REGION NO. 9 COUNTY San Diego

AT RIVER MILE 15.2 SEC. 25, T 15 S, R 2 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-379 TABLE 9

TABLE 9

SAMPLING STATION DATA
SAN DIEGO REGION

STATION San Dieguito River below San Pasqual Valley

SAMPLING POINT from right bank, 75 yards upstream from USGS gage, 2½ mile upstream from Highway 395 Bridge, 4.5 miles southeast of Escondido and 5 miles west of San Pasqual.

STATION NO. 64 REGION NO. 9 COUNTY San Diego

AT RIVER MILE 21.8 SEC. 1, T 13 S, R 2 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-381 TABLE 9

STATION San Luis Rey River near Pala

SAMPLING POINT from right bank at Pala Diversion Dam and USGS summer gage, 1.8 miles east of Pala.

STATION NO. 62 REGION NO. 9 COUNTY San Diego

AT RIVER MILE 24.8 SEC. 36 T 9 S, R 2 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-383 TABLE 9

TABLE 9

SAMPLING STATION DATA
SAN DIEGO REGION

STATION Santa Margarita River near Fallbrook

SAMPLING POINT left bank 2 miles north of Fallbrook and 1/2 mile downstream from Fallbrook Public Utility District gage.

STATION NO. 51c REGION NO. 9 COUNTY San Diego

AT RIVER MILE 20 SEC. 12, T 9 S, R 4 W, SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-385 TABLE 9

STATION Tia Juana River at International Boundary

SAMPLING POINT from right bank at California Water & Telephone Company gage 2.5 miles upstream from Nestor bridge.

STATION NO. 66 REGION NO. 9 COUNTY San Diego

AT RIVER MILE 6.0 SEC. 1, T 19 S, R 2 W SBB&M

SAMPLED BY DWR-Los Angeles

ANALYSIS ON PAGE A-387 TABLE 9

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Eel River near McCann | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 4 1230 | Not rated | 42 | 12.6 | 100 | 132 | 7.7 | 17 / 0.848 | 4.4 / 0.362 | 3.6 / 0.157 | 0.9 / 0.023 | 0 / 0.000 | 70 / 1.147 | | 1.8 / 0.051 | | | 0.19 | | | | 11 | 60 | 3 | 35 | | USGS |
| Feb 8 1040 | | 53 | 12.2 | 112 | 164 | 7.8 | 21 / 1.048 | 5.7 / 0.472 | 4.9 / 0.213 | 0.7 / 0.018 | 0 / 0.000 | 88 / 1.442 | | 3.0 / 0.085 | | | 0.06 | | | | 12 | 76 | 4 | 7 | | USGS |
| Mar 6 1735 | | 48 | 12.2 | 105 | 153 | 7.8 | 17 / 0.848 | 7.4 / 0.612 | 5.0 / 0.217 | 1.0 / 0.026 | 0 / 0.000 | 84 / 1.377 | | 3.2 / 0.090 | | | 0.07 | | | | 13 | 73 | 4 | 10 | | USGS |
| Apr 5 0900 | | 50 | 10.2 | 95 | 157 | 7.6 | 20 / 0.998 | 5.1 / 0.422 | 4.6 / 0.200 | 0.8 / 0.020 | 0 / 0.000 | 83 / 1.360 | | 2.5 / 0.071 | | | 0.12 | | | | 12 | 71 | 3 | 2 | | USGS |
| May 4 1350 | | 58 | 10.6 | 103 | 148 | 6.8 | 19 / 0.948 | 4.8 / 0.392 | 4.5 / 0.196 | 0.8 / 0.020 | 0 / 0.000 | 80 / 1.311 | 9.7 / 0.202 | 2.2 / 0.062 | 0.1 / 0.002 | 0.0 / 0.000 | 0.02 | 10 | Pb 0.005; (a) $PO_4$ 0.05 | 90[b] | 13 | 67 | 1 | 20 | | USGS |
| Jun 6 1345 | | 80 | 9.0 | 110 | 187 | 8.3 | 28 / 1.397 | 4.4 / 0.363 | 5.2 / 0.226 | 0.9 / 0.023 | 0 / 0.000 | 99 / 1.622 | | 3.4 / 0.096 | | | 0.07 | | Al 0.04; Zn 0.01 (a) | | 11 | 88 | 7 | 0.4 | | USGS |
| Jul 12 1015 | | 68 | 8.2 | 90 | 249 | 7.6 | 31 / 1.547 | 8.9 / 0.733 | 6.6 / 0.287 | 1.1 / 0.028 | 0 / 0.000 | 135 / 2.212 | | 5.0 / 0.141 | | | 0.21 | | | | 11 | 114 | 3 | 0.9 | | USGS |
| Aug 1 1700 | | 76 | 10.0 | 118 | 247 | 8.4 | 35 / 1.747 | 6.7 / 0.553 | 7.1 / 0.309 | 1.1 / 0.028 | 0 / 0.000 | 131 / 2.147 | | 5.5 / 0.155 | | | 0.21 | | | | 12 | 115 | 8 | 0.8 | | USGS |
| Sep 13 0945 | | 64 | 8.8 | 92 | 283 | 8.3 | 37 / 1.846 | 8.6 / 0.710 | 7.8 / 0.339 | 1.3 / 0.033 | 0 / 0.000 | 150 / 2.458 | 19 / 0.396 | 5.6 / 0.158 | 0.1 / 0.002 | 0.1 / 0.005 | 0.13 | 12 | Fe 0.02; Al 0.04; Cu 0.01; (a) | 166[b] | 12 | 128 | 0 | 1.0 | | USGS |
| Oct 4 1300 | | 65 | 9.9 | 103 | 277 | 7.2 | 36 / 1.796 | 9.3 / 0.764 | 7.6 / 0.331 | 1.3 / 0.033 | 0 / 0.000 | 142 / 2.327 | | 4.5 / 0.135 | | | 0.17 | | | | 11 | 128 | 12 | 3 | | USGS |
| Nov 15 1030 | | 48 | 10.8 | 93 | 283 | 7.0 | 37 / 1.846 | 9.7 / 0.794 | 9.5 / 0.413 | 1.2 / 0.031 | 0 / 0.000 | 136 / 2.229 | | 9.2 / 0.276 | | | 0.26 | | | | 13 | 132 | 20 | 3 | | USGS |
| Dec 6 1120 | | 51 | 9.5 | 85 | 112 | 7.1 | 13 / 0.649 | 2.9 / 0.239 | 5.6 / 0.244 | 2.7 / 0.069 | 0 / 0.000 | 49 / 0.803 | | 3.3 / 0.093 | | | 0.22 | | | | 20 | 44 | 4 | 1100 | median 0.62 minimum .045 maximum 62 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Eel River near McCann | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1040 | Not rated | 50 | 11.0 | 97 | 101 | 6.9 | 9.8 / 0.489 | 4.0 / 0.331 | 4.2 / 0.183 | 1.3 / 0.033 | 0 / 0.000 | 53 / 0.869 | | 0.0 / 0.000 | | | 0.01 | | | | 18 | 41 | 0 | 600 | | USGS |
| Feb 16 1135 | | 45 | 11.5 | 95 | 148 | 6.9 | 16 / 0.798 | 5.4 / 0.442 | 6.2 / 0.270 | 0.8 / 0.020 | 0 / 0.000 | 81 / 1.328 | | 3.0 / 0.085 | | | 0.10 | | | | 18 | 62 | 0 | 15 | | USGS |
| Mar 6 1030 | | 47 | 11.0 | 93 | 218 | 6.9 | 27 / 1.347 | 7.5 / 0.613 | 5.9 / 0.257 | 1.1 / 0.028 | 0 / 0.000 | 112 / 1.836 | | 6.8 / 0.192 | | | 0.04 | | | | 11 | 98 | 6 | 140 | | USGS |
| Apr 2 1515 | | 52 | 11.2 | 101 | 144 | 7.2 | 16 / 0.798 | 6.3 / 0.522 | 3.9 / 0.170 | 0.9 / 0.023 | 0 / 0.000 | 83 / 1.360 | | 1.0 / 0.028 | | | 0.09 | | | | 11 | 66 | 0 | 50 | | USGS |
| May 8 1215 | | 60 | 10.5 | 105 | 128 | 7.5* | 18 / 0.898 | 3.7 / 0.302 | 3.4 / 0.148 | 0.8 / 0.020 | 0 / 0.000 | 71 / 1.164 | 8.2 / 0.171 | 0.5 / 0.014 | 0.3 / 0.005 | 0.3 / 0.016 | 0.00 | 9.0 | Fe 0.04; Al 0.03; Cu 0.02; Zn 0.01; $PO_4$ 0.05 (a) | 79[b] | 11 | 60 | 2 | 300 | | USGS |
| June 12 1450 | | 70 | 8.6 | 96 | 162 | 7.1 | 22 / 1.098 | 4.9 / 0.406 | 3.8 / 0.165 | 0.9 / 0.023 | 0 / 0.000 | 88 / 1.442 | | 1.5 / 0.042 | | | 0.11 | | | | 10 | 75 | 3 | 3 | | USGS |
| July 3 1120 | | 67 | 8.9 | 96 | 201 | 8.3 | 27 / 1.347 | 7.2 / 0.593 | 4.7 / 0.204 | 1.2 / 0.031 | 0 / 0.000 | 111 / 1.819 | | 3.0 / 0.080 | | | 0.14 | | | | 9 | 97 | 6 | 1 | | USGS |
| Aug 7 1500 | | 74 | 9.8 | 113 | 273 | 7.2 | 38 / 1.896 | 9.3 / 0.764 | 7.0 / 0.304 | 1.3 / 0.033 | 0 / 0.000 | 156 / 2.557 | | 4.5 / 0.127 | | | 0.09 | | | | 10 | 133 | 5 | 1 | | USGS |
| Sept 14 1200 | | 74 | 10.6 | 122 | 286 | 7.2 | 38 / 1.896 | 9.7 / 0.796 | 7.5 / 0.326 | 1.6 / 0.041 | 0 / 0.000 | 155 / 2.540 | 18 / 0.375 | 5.3 / 0.149 | 0.3 / 0.005 | 0.0 / 0.000 | 0.16 | 12 | Al 0.04; Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 169[b] | 11 | 135 | 8 | 0.4 | | USGS |
| Oct 5 1030 | | 75 | 8.0 | 94 | 289 | 8.0 | 40 / 1.996 | 9.2 / 0.760 | 7.5 / 0.326 | 1.4 / 0.036 | 0 / 0.000 | 154 / 2.524 | | 5.8 / 0.164 | | | 0.11 | | | | 10 | 138 | 12 | 0.6 | | USGS |
| Nov 3 1425 | | 49 | 10.8 | 94 | 212 | 7.4 | 27 / 1.347 | 5.9 / 0.489 | 6.6 / 0.287 | 1.2 / 0.031 | 0 / 0.000 | 98 / 1.606 | | 6.5 / 0.183 | | | 0.19 | | | | 13 | 92 | 12 | 45 | | USGS |
| Dec 4 1325 | | 48 | 11.8 | 102 | 267 | 7.9 | 36 / 1.80 | 8.8 / 0.72 | 6.5 / 0.28 | 1.0 / 0.03 | 0 / 0.000 | 137 / 2.25 | | 6.4 / 0.18 | | | 0.12 | | | | 10 | 126 | 14 | 0.2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 500 | |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Eel River at Scotia | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 4 1200 | 12,400 | 45 | 12.3 | 102 | 135 | 7.8 | 16 / 0.798 | 4.3 / 0.352 | 4.8 / 0.209 | 1.0 / 0.026 | 0 / 0.000 | 68 / 1.114 | | 4.0 / 0.113 | | | 0.15 | | | | 15 | 58 | 2 | 45 | | USGS |
| Feb 8 1215 | 4,680 | 56 | 15.6 | 148 | 215 | 8.0 | 24 / 1.198 | 7.1 / 0.582 | 9.9 / 0.430 | 0.7 / 0.018 | 0 / 0.000 | 101 / 1.655 | | 10 / 0.282 | | | 0.05 | | | | 19 | 89 | 6 | 5 | | USGS |
| Mar 6 1240 | 4,600 | 54 | 13.2 | 122 | 196 | 8.2 | 19 / 0.948 | 7.9 / 0.652 | 8.1 / 0.352 | 1.1 / 0.023 | 0 / 0.000 | 92 / 1.508 | | 8.3 / 0.234 | | | 0.01 | | | | 18 | 80 | 5 | 10 | | USGS |
| Apr 5 1000 | 3,300 | 54 | 13.6 | 126 | 265 | 7.4 | 26 / 1.297 | 14 / 1.127 | 8.4 / 0.365 | 1.3 / 0.033 | 0 / 0.000 | 143 / 2.344 | | 3.3 / 0.093 | | | 0.10 | | | | 13 | 121 | 4 | 4 | | USGS |
| May 13 1120 | 4,[illegible] | 60 | 10.4 | 104 | 177 | 6.9 | 24 / 1.198 | 4.2 / 0.342 | 6.8 / 0.296 | 0.8 / 0.020 | 0 / 0.000 | 90 / 1.475 | 9.6 / 0.200 | 7.0 / 0.197 | 0.1 / 0.002 | 0.0 / 0.000 | 0.09 | 10 | Fe 0.1; Al 0.03; Pb 0.005; (a) $PO_4$ 0.05 | 107[b] | 16 | 77 | 3 | 8 | | USGS |
| Jun 6 1500 | 1,240 | 83 | 1[illegible].4 | 170 | 262 | 8.5 | 28 / 1.397 | 11 / 0.943 | 8.4 / 0.365 | 2.7 / 0.069 | 0 / 0.000 | 149 / 2.442 | | 5.2 / 0.147 | | | 0.16 | | | | 13 | 117 | 0 | 1 | | USGS |
| Jul 12 1120 | 380 | 67 | 15.6 | 168 | 310 | 8.1 | 37 / 1.846 | 9.4 / 0.774 | 8.9 / 0.387 | 3.2 / 0.082 | 0 / 0.000 | 173 / 2.835 | | 6.5 / 0.183 | | | 0.17 | | | | 13 | 131 | 0 | 15 | | USGS |
| Aug 1 1020 | 190 | 77 | 18.2 | 217 | 249 | 9.0 | 28 / 1.397 | 10 / 0.863 | 8.6 / 0.374 | 1.3 / 0.033 | 6 / 0.200 | 128 / 2.098 | | 7.2 / 0.203 | | | 0.15 | | | | 14 | 113 | 0 | 2 | | USGS |
| Sep 13 1130 | 104 | 58 | 11.6 | 134 | 293 | 8.4 | 33 / 1.647 | 11 / 0.917 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 159 / 2.606 | 13 / 0.271 | 8.5 / 0.240 | 0.9 / 0.015 | 0.1 / 0.005 | 0.10 | 9.3 | Fe 0.92; Al 0.09; (a) | 165[b] | 14 | 128 | 0 | 7.0 | | USGS |
| Oct 4 1430 | 154 | 69 | 1[illegible].9 | 135 | 277 | 8.1 | 33 / 1.647 | 11 / 0.873 | 9.5 / 0.413 | 1.2 / 0.031 | 5 / 0.167 | 142 / 2.327 | | 6.8 / 0.192 | | | 0.18 | | | | 14 | 126 | 1 | 4 | | USGS |
| Nov 15 1145 | 340 | 48 | 11.4 | 98 | 286 | 7.1 | 36 / 1.796 | 9.2 / 0.756 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 146 / 2.393 | | 9.1 / 0.257 | | | 0.10 | | | | 14 | 128 | 8 | 4 | | USGS |
| Dec 6 1135 | 56,300 | 50 | 10.0 | 88 | 108 | 7.1 | 12 / 0.599 | 3.9 / 0.321 | 4.6 / 0.200 | 1.9 / 0.049 | 0 / 0.000 | 49 / 0.803 | | 2.4 / 0.068 | | | 0.26 | | | | 17 | 46 | 6 | 800 | median 42 minimum .06 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Eel River at Scotia | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1245 | 65,400 | 49 | 11.5 | 100 | 112 | 6.9 | 14 / 0.699 | 3.2 / 0.261 | 3.0 / 0.130 | 1.8 / 0.046 | 0 / 0.000 | 61 / 1.000 | | 1.5 / 0.042 | | | 0.11 | | | | 11 | 48 | 0 | 1100 | | USGS |
| Feb 16 1010 | 5,200 | 47 | 11.0 | 93 | 304 | 6.8 | 34 / 1.697 | 8.8 / 0.723 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 140 / 2.295 | | 19 / 0.536 | | | 0.11 | | | | 21 | 121 | 6 | 40 | | USGS |
| Mar 6 1145 | 23,500 | 52 | 10.4 | 94 | 183 | 6.9 | 21 / 1.048 | 7.4 / 0.612 | 5.7 / 0.248 | 1.3 / 0.033 | 0 / 0.000 | 100 / 1.639 | | 6.5 / 0.183 | | | 0.27 | | | | 13 | 83 | 1 | 150 | | USGS |
| Apr 2 1800 | 5,050 | 54 | 11.0 | 102 | 163 | 7.4 | 26 / 1.297 | 2.2 / 0.183 | 5.2 / 0.226 | 1.0 / 0.026 | 0 / 0.000 | 97 / 1.590 | | 1.5 / 0.042 | | | 0.05 | | | | 13 | 74 | 0 | 35 | | USGS |
| May 8 1330 | 6,130 | 60 | 10.8 | 108 | 159 | 7.9* | 22 / 1.098 | 4.5 / 0.374 | 4.7 / 0.204 | 0.9 / 0.023 | 0 / 0.000 | 89 / 1.459 | 9.8 / 0.204 | 1.7 / 0.048 | 0.7 / 0.011 | 0.3 / 0.016 | 0.06 | 10 | Fe 0.02; Cu 0.01; As 0.02; (a) $PO_4$ 0.10 | 99[b] | 12 | 74 | 1 | 150 | | USGS |
| June 12 1630 | 1,500 | 70 | 10.2 | 114 | 190 | 7.3 | 25 / 1.248 | 6.1 / 0.504 | 5.3 / 0.231 | 1.2 / 0.031 | 0 / 0.000 | 105 / 1.721 | | 3.0 / 0.085 | | | 0.00 | | | | 11 | 88 | 2 | 1 | | USGS |
| July 3 1310 | 550 | 66 | 9.8 | 104 | 234 | 8.0 | 31 / 1.547 | 9.2 / 0.753 | 6.3 / 0.274 | 1.2 / 0.031 | 0 / 0.000 | 134 / 2.196 | | 4.5 / 0.127 | | | 0.17 | | | | 11 | 115 | 5 | 1 | | USGS |
| Aug 7 1630 | 167 | 75 | 13.6 | 159 | 441 | 6.7 | 43 / 2.146 | 25 / 2.094 | 14 / 0.609 | 2.1 / 0.054 | 0 / 0.000 | 239 / 3.917 | | 11 / 0.310 | | | 0.15 | | | | 12 | 212 | 16 | 3 | | USGS |
| Sept 14 1030 | 86 | 65 | 9.4 | 99 | 316 | 7.2 | 40 / 1.996 | 12 / 0.952 | 9.9 / 0.431 | 1.7 / 0.043 | 0 / 0.000 | 182 / 2.983 | 11 / 0.229 | 6.3 / 0.178 | 0.7 / 0.011 | 0.0 / 0.000 | 0.14 | 8.4 | Al 1.10; Zn 0.03; $PO_4$ 0.15; (a) | 180[b] | 13 | 147 | 0 | 0.4 | | USGS |
| Oct 5 0900 | 82 | 68 | 8.6 | 94 | 322 | 8.0 | 42 / 2.096 | 12 / 0.988 | 9.8 / 0.426 | 1.4 / 0.036 | 0 / 0.000 | 190 / 3.114 | | 6.8 / 0.192 | | | 0.10 | | | | 12 | 154 | 0 | 0.5 | | USGS |
| Nov 3 1240 | 3,130 | 48 | 11.0 | 95 | 191 | 7.5 | 22 / 1.098 | 6.2 / 0.510 | 7.0 / 0.304 | 1.3 / 0.033 | 0 / 0.000 | 85 / 1.393 | | 6.3 / 0.178 | | | 0.04 | | | | 16 | 80 | 10 | 30 | | USGS |
| Dec 4 1430 | 380 | 48 | 13.4 | 115 | 277 | 8.2 | 36 / 1.80 | 9.1 / 0.75 | 8.6 / 0.37 | 1.2 / 0.03 | 0 / 0.000 | 146 / 2.39 | | 7.0 / 0.20 | | | 0.06 | | | | 13 | 128 | 8 | 0.6 | median 62 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |
| * Lab pH | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Eel River, South Fork near Miranda** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 4 0900 | 3,100 | 44 | 12.3 | 100 | 107 | 7.5 | 12 / 0.599 | 3.2 / 0.261 | 5.5 / 0.239 | 0.8 / 0.020 | 0 / 0.000 | 58 / 0.951 | | 2.0 / 0.056 | | | 0.00 | | | | 21 | 43 | 0 | | | USGS |
| Feb 8 0930 | 1,710 | 48 | 12.5 | 107 | 137 | 7.4 | 15 / 0.749 | 4.6 / 0.381 | 6.2 / 0.270 | 0.7 / 0.018 | 0 / 0.000 | 72 / 1.180 | | 4.0 / 0.113 | | | 0.03 | | | | 19 | 56 | 0 | 5 | | USGS |
| Mar 6 1630 | 922 | 49 | 12.0 | 104 | 131 | 7.7 | 12 / 0.599 | 6.1 / 0.505 | 6.1 / 0.265 | 0.8 / 0.020 | 0 / 0.000 | 70 / 1.147 | | 4.4 / 0.124 | | | 0.0 | | | | 19 | 55 | 0 | 2 | | USGS |
| Apr 5 0930 | 578 | 48 | 10.4 | 90 | 146 | 7.8 | 16 / 0.798 | 4.9 / 0.402 | 6.6 / 0.287 | 0.8 / 0.020 | 0 / 0.000 | 78 / 1.278 | | 4.5 / 0.127 | | | 0.09 | | | | 19 | 60 | 0 | 4 | | USGS |
| May 3 1500 | 1,770 | 56 | 10.5 | 100 | 125 | 6.8 | 11 / 0.549 | 6.0 / 0.495 | 6.1 / 0.265 | 1.0 / 0.026 | 0 / 0.000 | 70 / 1.147 | 6.3 / 0.131 | 3.1 / 0.087 | 0.3 / 0.005 | 0.2 / 0.016 | 0.06 | 28 | (a) $PO_4$ 0.10 | 106[b] | 20 | 52 | 0 | 5 | | USGS |
| Jun 6 1300 | 300 | 76 | 10.0 | 118 | 103 | 8.2 | 11 / 0.549 | 4.2 / 0.343 | 2.6 / 0.113 | 0.6 / 0.015 | 0 / 0.000 | 51 / 0.836 | | 2.8 / 0.079 | | | 0.00 | | Al 0.03; (a) | | 11 | 45 | 3 | 1 | | USGS |
| Jul 12 0900 | 112 | 68 | 8.0 | 87 | 204 | 7.5 | 21 / 1.048 | 8.4 / 0.692 | 8.9 / 0.387 | 1.2 / 0.031 | 0 / 0.000 | 113 / 1.852 | | 5.5 / 0.155 | | | 0.09 | | | | 18 | 87 | 0 | 0.6 | | USGS |
| Aug 1 1700 | 75 | 79 | 10.4 | 127 | 220 | 7.3 | 22 / 1.098 | 9.3 / 0.762 | 9.0 / 0.391 | 1.3 / 0.033 | 0 / 0.000 | 126 / 2.065 | | 5.5 / 0.155 | | | 0.12 | | | | 17 | 93 | 0 | 0.0 | | USGS |
| Sep 13 0930 | 42 | 64 | 9.1 | 8. | 20.0 | 7.9 | 25 / 1.248 | 10 / 0.824 | 9.3 / 0.404 | 1.1 / 0.028 | 0 / 0.0 | 135 / 2.212 | 4.0 / 0.083 | 7.0 / 0.197 | 0.2 / 0.003 | 0.2 / 0.011 | 0.11 | 9.4 | Fe 0.02; Al 0.05; Cu 0.01; (a) | 133[b] | 16 | 104 | 0 | 1.0 | | USGS |
| Oct 4 1100 | 72 | 61 | 9.4 | 95 | 151 | 7.1 | 26 / 1.297 | 11 / 0.871 | 9.2 / 0.400 | 1.3 / 0.033 | 0 / 0.000 | 138 / 2.262 | | 6.5 / 0.183 | | | 0.17 | | | | 15 | 108 | 0 | 2 | | USGS |
| Nov 15 0930 | 153 | 47 | 11.2 | 95 | 128 | 6.9 | 24 / 1.198 | 9.5 / 0.782 | 9.2 / 0.400 | 0.9 / 0.023 | 0 / 0.0 | 119 / 1.950 | | 7.6 / 0.214 | | | 0.13 | | | | 17 | 99 | 1 | 10 | | USGS |
| Dec 6 1600 | 24,500 | 52 | 9.5 | 86 | 75.9 | 7.1 | 7.2 / 0.359 | 3.1 / 0.255 | 3.9 / 0.170 | 2.2 / 0.056 | 0 / 0.000 | 35 / 0.574 | | 2.2 / 0.062 | | | 0.20 | | | | 20 | 31 | 2 | 1300 | median 2.3 minimum .23 maximum 230 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Eel River, South Fork near Miranda | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 0910 | 12,600 | 49 | 11.0 | 96 | 105 | 7.0 | 11 / 0.549 | 4.0 / 0.331 | 3.5 / 0.152 | 1.6 / 0.041 | 0 / 0.000 | 56 / 0.918 | | 2.5 / 0.070 | | | 0.08 | | | | 14 | 44 | 0 | 550 | | USGS |
| Feb 16 1300 | 2,450 | 45 | 12.2 | 100 | 148 | 7.0 | 16 / 0.798 | 5.0 / 0.414 | 6.5 / 0.283 | 0.8 / 0.020 | 0 / 0.000 | 80 / 1.311 | | 2.6 / 0.073 | | | 0.05 | | | | 19 | 61 | 0 | 25 | | USGS |
| Mar 6 0905 | 5,450 | 44 | 12.0 | 98 | 102 | 6.9 | 12 / 0.599 | 2.8 / 0.233 | 4.8 / 0.209 | 1.1 / 0.028 | 0 / 0.000 | 59 / 0.967 | | 1.5 / 0.042 | | | 0.03 | | | | 20 | 42 | 0 | 450 | | USGS |
| Apr 2 1630 | 664 | 54 | 11.2 | 104 | 149 | 7.8 | 5.6 / 0.279 | 12 / 0.981 | 6.4 / 0.278 | 0.9 / 0.023 | 0 / 0.000 | 86 / 1.410 | | 2.5 / 0.070 | | | 0.04 | | | | 18 | 63 | 0 | 15 | | USGS |
| May 8 1100 | 479 | 61 | 9.4 | 94 | 159 | 7.9* | 19 / 0.948 | 5.0 / 0.412 | 6.9 / 0.300 | 1.0 / 0.026 | 0 / 0.000 | 90 / 1.475 | 6.4 / 0.133 | 2.8 / 0.079 | 0.2 / 0.003 | 0.3 / 0.016 | 0.05 | 13 | Fe 0.02; Cu 0.01; As 0.01; (a) $PO_4$ 0.10 | 99[b] | 18 | 68 | 0 | 4 | | USGS |
| June 12 1340 | 177 | 70 | 9.4 | 104 | 204 | 7.2 | 23 / 1.148 | 8.0 / 0.660 | 7.7 / 0.335 | 1.1 / 0.028 | 0 / 0.000 | 116 / 1.901 | | 5.1 / 0.144 | | | 0.11 | | | | 15 | 90 | 0 | 1 | | USGS |
| July 3 1015 | 117 | 66 | 8.0 | 85 | 229 | 8.1 | 27 / 1.347 | 9.4 / 0.773 | 8.8 / 0.383 | 1.3 / 0.033 | 0 / 0.000 | 134 / 2.196 | | 5.5 / 0.155 | | | 0.18 | | | | 15 | 106 | 0 | 2 | | USGS |
| Aug 7 1150 | 60 | 72 | 9.2 | 105 | 243 | 7.1 | 26 / 1.297 | 10 / 0.863 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 141 / 2.311 | | 7.0 / 0.197 | | | 0.10 | | | | 17 | 108 | 0 | 1 | | USGS |
| Sept 14 1400 | 44 | 70 | 10.4 | 116 | 258 | 7.4 | 28 / 1.397 | 11 / 0.883 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 148 / 2.426 | 6.0 / 0.125 | 7.2 / 0.203 | 0.5 / 0.008 | 0.0 / 0.000 | 0.16 | 7.0 | Al 0.08; Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 144[b] | 16 | 114 | 0 | 0.4 | | USGS |
| Oct 5 1100 | 39 | 71 | 9.6 | 108 | 270 | 7.8 | 32 / 1.597 | 11 / 0.871 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 157 / 2.573 | | 7.4 / 0.209 | | | 0.17 | | | | 15 | 123 | 0 | 0.3 | | USGS |
| Nov 3 1540 | 648 | 47 | 11.0 | 93 | 159 | 7.3 | 16 / 0.798 | 6.2 / 0.506 | 6.9 / 0.300 | 1.0 / 0.026 | 0 / 0.000 | 79 / 1.295 | | 4.7 / 0.133 | | | 0.10 | | | | 18 | 65 | 0 | 9 | | USGS |
| Dec 4 1140 | 110 | 49 | 11.8 | 103 | 218 | 7.5 | 25 / 1.25 | 7.9 / 0.65 | 8.4 / 0.37 | 0.9 / 0.02 | 0 / 0.000 | 118 / 1.93 | | 6.9 / 0.19 | | | 0.12 | | | | 16 | 95 | 0 | 9 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | mimimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |
| *Lab pH | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Klamath River near Copco** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 4 1300 | 2,010 | 38 | 8.0 | 60 | 132 | | 9.7 / 0.484 | 4.3 / 0.356 | 12 / 0.522 | 1.7 / 0.043 | 0 / 0.000 | 64 / 1.049 | | 2.5 / 0.071 | | | 0.02 | | | | 37 | 42 | 0 | 7 | | USGS |
| Feb 11 1130 | 2,000 | 38 | | | 148 | | 11 / 0.549 | 5.2 / 0.431 | 12 / 0.522 | 2.2 / 0.056 | 0 / 0.000 | 70 / 1.147 | | 2.0 / 0.056 | | | 0.02 | | | | 34 | 49 | 0 | 3 | | USGS |
| Mar 16 1200 | 2,360 | 45 | 7.9 | 66 | 289 | | 19 / 0.948 | 10 / 0.852 | 21 / 0.913 | 3.6 / 0.092 | 0 / 0.000 | 95 / 1.557 | | 4.0 / 0.113 | | | 0.03 | | | | 33 | 90 | 12 | 4 | | USGS |
| Apr 12 1040 | 2,040 | 50 | 7.5 | 66 | 353 | | 25 / 1.248 | 13 / 1.052 | 26 / 1.131 | 4.0 / 0.102 | 0 / 0.000 | 106 / 1.737 | | 5.5 / 0.155 | | | 0.13 | | | | 32 | 115 | 28 | 1 | | USGS |
| May 12 1500 | 2,950 | 50 | 7.9 | 70 | 179 | | 5.1 / 0.254 | 10 / 0.846 | 14 / 0.609 | 2.5 / 0.064 | 0 / 0.000 | 73 / 1.196 | 18 / 0.375 | 4.0 / 0.113 | 2.9 / 0.047 | 0.1 / 0.005 | 0.14 | 19 | Fe 0.01; Al 0.005; (a) $PO_4$ 0.10 | 112[b] | 34 | 55 | 0 | 0.6 | | USGS |
| Jun | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 12 1100 | 1,840 | 70 | 9.6 | 106 | 176 | | 13 / 0.649 | 6.9 / 0.571 | 14 / 0.609 | 2.3 / 0.059 | 0 / 0.000 | 94 / 1.541 | | 4.8 / 0.135 | | | 0.16 | | | | 32 | 61 | 0 | 2 | | USGS |
| Aug 7 1000 | 284 | 70 | | | 149 | | 11 / 0.549 | 5.0 / 0.411 | 11 / 0.478 | 2.3 / 0.059 | 0 / 0.000 | 76 / 1.246 | | 1.5 / 0.042 | | | 0.04 | | | | 32 | 48 | 0 | 1 | | USGS |
| Sep 14 1300 | 1,520 | 62 | 7.9 | 80 | 191 | | 13 / 0.649 | 7.2 / 0.591 | 15 / 0.652 | 2.5 / 0.064 | 0 / 0.000 | 92 / 1.508 | 13 / 0.271 | 3.2 / 0.090 | 2.6 / 0.042 | 0.3 / 0.016 | 0.06 | 35 | Fe 0.02; Al 0.03; (a) | 137[b] | 33 | 62 | 0 | 1 | | USGS |
| Oct 10 1400 | 1,560 | 57 | | | | | 13 / 0.649 | 8.2 / 0.675 | 22 / 0.957 | 3.4 / 0.087 | 0 / 0.000 | 100 / 1.639 | | 4.2 / 0.113 | | | 0.12 | | | | 40 | 66 | 0 | 3 | | USGS |
| Nov 7 1100 | 2,610 | 50 | | | | | 11 / 0.549 | 5.5 / 0.451 | 14 / 0.609 | 2.7 / 0.069 | 0 / 0.000 | 78 / 1.278 | | 3.0 / 0.085 | | | 0.06 | | | | 36 | 50 | 0 | 2 | | USGS |
| Dec 2 1000 | 3,060 | 40 | | | | | 12 / 0.599 | 5.7 / 0.465 | 15 / 0.652 | 2.7 / 0.069 | 0 / 0.000 | 78 / 1.278 | | 3.2 / 0.090 | | | 0.08 | | | | 37 | 53 | 0 | 8 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 620 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Klamath River near Copco** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1000 | 6,270 | 35 | | | 166 | | 9.6 / 0.479 | 5.6 / 0.461 | 13 / 0.566 | 2.2 / 0.056 | 0 / 0.000 | 66 / 1.082 | | 3.5 / 0.099 | | | 0.11 | | | | 36 | 47 | 0 | 25 | | USGS |
| Feb 6 1430 | 6,380 | 38 | | | 170 | | 12 / 0.599 | 4.9 / 0.401 | 15 / 0.652 | 2.2 / 0.056 | 0 / 0.000 | 70 / 1.147 | | 0.0 / 0.000 | | | 0.11 | | | | 38 | 50 | 0 | 30 | | USGS |
| Mar 13 0900 | 6,450 | 38 | 8.8 | 86 | 175 | | 15 / 0.748 | 4.0 / 0.328 | 16 / 0.696 | 2.5 / 0.064 | 0 / 0.000 | 78 / 1.278 | | 0.3 / 0.008 | | | 0.07 | | | | 38 | 54 | 0 | 10 | | USGS |
| Apr 9 1600 | 7,430 | 53 | 8.9 | 82 | 154 | | 11 / 0.549 | 5.5 / 0.455 | 13 / 0.566 | 2.2 / 0.056 | 0 / 0.000 | 73 / 1.196 | | 2.6 / 0.073 | | | 0.08 | | | | 35 | 50 | 0 | 15 | | USGS |
| May 14 1100 | 6,960 | 55 | 7.9 | 74 | 161 | 7.8* | 14 / 0.699 | 3.7 / 0.301 | 15 / 0.652 | 2.6 / 0.067 | 0 / 0.000 | 77 / 1.262 | 16 / 0.333 | 2.1 / 0.059 | 2.0 / 0.032 | 0.5 / 0.026 | 0.02 | 22 | Fe 0.11; Al 0.14; Cu 0.02; Zn 0.01; $PO_4$ 0.30 (a) | 116[b] | 38 | 50 | 0 | 10 | | USGS |
| June 6 1300 | 3,670 | 59 | | | 202 | | 12 / 0.599 | 7.6 / 0.629 | 19 / 0.826 | 3.4 / 0.087 | 0 / 0.000 | 89 / 1.459 | | 3.5 / 0.099 | | | 0.07 | | | | 39 | 61 | 0 | 3 | | USGS |
| July 10 0600 | 2,420 | 68 | | | 291 | 7.1* | 17 / 0.848 | 12 / 0.952 | 25 / 1.088 | 4.0 / 0.102 | 0 / 0.000 | 112 / 1.836 | | 4.9 / 0.138 | | | 0.12 | | | | 36 | 90 | 0 | 1 | | USGS |
| Aug 25 | 1,330 | 66 | | | 309 | 7.3* | 19 / 0.948 | 10 / 0.852 | 29 / 1.262 | 4.6 / 0.118 | 0 / 0.000 | 110 / 1.803 | | 5.7 / 0.161 | | | 0.11 | | | | 40 | 90 | 0 | 1 | | USGS |
| Sept 23 1000 | 930 | 63 | 10.4 | 107 | 286 | 7.6* | 19 / 0.948 | 9.6 / 0.792 | 26 / 1.131 | 4.0 / 0.102 | 0 / 0.000 | 106 / 1.737 | 50 / 1.041 | 4.2 / 0.118 | 3.6 / 0.058 | 0.3 / 0.016 | 0.14 | 36 | Fe 0.05; Al 0.16; Cu 0.01; Pb 0.02; Zn 0.02 (a) | 205[b] | 38 | 87 | 0 | 3 | | USGS |
| Oct 10 1100 | 3,470 | 60 | 11.4 | 113 | 205 | 7.6* | 13 / 0.649 | 7.6 / 0.627 | 17 / 0.740 | 3.1 / 0.079 | 0 / 0.000 | 84 / 1.377 | | 3.4 / 0.096 | | | 0.09 | | | | 35 | 64 | 0 | 3 | | USGS |
| Nov 5 1300 | 3,690 | 50 | 8.9 | 79 | 152 | 7.6* | 14 / 0.699 | 7.2 / 0.589 | 6.9 / 0.300 | 1.3 / 0.033 | 0 / 0.000 | 95 / 1.557 | | 1.4 / 0.039 | | | 0.00 | | | | 19 | 64 | 0 | 0.8 | | USGS |
| Dec 12 1000 | 3,850 | 37 | 8.9 | 66 | 190 | 7.5* | 12 / 0.60 | 68 / 0.52 | 18 / 0.78 | 3.4 / 0.09 | 0 / 0.00 | 86 / 1.41 | | 3.0 / 0.08 | | | 0.09 | | | | 39 | 56 | 0 | 10 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2400 | |
| *Lab pH | | | | | | | | | | | | | | | | | | | | | | | | | minimum 62 maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH)

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Klamath River near Klamath | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 5 1510 | 17,600 | 45 | 13.0 | 107 | 123 | 7.1 | 13 / 0.649 | 5.5 / 0.451 | 3.4 / 0.148 | 0.5 / 0.013 | 0 / 0.000 | 67 / 1.098 | | 4.2 / 0.118 | | | 0.15 | | | | 12 | 55 | 0 | 7 | | USGS |
| Feb 9 1625 | 13,100 | 46 | 12.4 | 104 | 153 | 7.6 | 16 / 0.798 | 7.6 / 0.622 | 5.4 / 0.235 | 0.8 / 0.020 | 0 / 0.000 | 82 / 1.344 | | 3.5 / 0.099 | | | 0.02 | | | | 14 | 71 | 4 | 5 | | USGS |
| Mar 13 1000 | 13,200 | 48 | 11.0 | 94 | 147 | 7.3 | 12 / 0.599 | 7.9 / 0.649 | 5.2 / 0.226 | 0.3 / 0.020 | 0 / 0.000 | 78 / 1.278 | | 3.4 / 0.096 | | | 0.04 | | | | 15 | 62 | 0 | 5 | | USGS |
| Apr 6 1300 | 12,400 | 53 | 11.0 | 100 | 129 | 7.7 | 13 / 0.649 | 6.2 / 0.511 | 3.9 / 0.170 | 0.8 / 0.020 | 0 / 0.000 | 70 / 1.147 | | 3.0 / 0.085 | | | 0.05 | | | | 13 | 58 | 1 | 3 | | USGS |
| May 11 1640 | 25,200 | 58 | 10.4 | 101 | 106 | 6.8 | 12 / 0.599 | 5.1 / 0.421 | 3.2 / 0.139 | 0.7 / 0.018 | 0 / 0.000 | 59 / 0.967 | 4.8 / 0.100 | 1.8 / 0.051 | 0.2 / 0.003 | 0.1 / 0.005 | 0.54 | 5.7 | Fe 0.2; Al 0.1; (a) Pb 0.005; $PO_4$ 0.05 | 63[b] | 12 | 51 | 3 | 3 | | USGS |
| Jun 7 1100 | 13,400 | 66 | 9.6 | 101 | 93.4 | 7.7 | 12 / 0.599 | 2.5 / 0.207 | 2.9 / 0.126 | 0.6 / 0.015 | 0 / 0.000 | 51 / 0.836 | | 1.8 / 0.051 | | | 0.00 | | Al 0.04 (a) | | 13 | 43 | 1 | 2 | | USGS |
| Jul 13 1230 | 5,360 | 68 | 9.4 | 102 | 154 | 7.4 | 16 / 0.798 | 6.7 / 0.522 | 5.6 / 0.244 | 0.9 / 0.023 | 0 / 0.000 | 83 / 1.360 | | 4.0 / 0.113 | | | 0.06 | | | | 15 | 66 | 0 | 2 | | USGS |
| Aug 2 1030 | 3,070 | 71 | 8.3 | 93 | 166 | 7.2 | 15 / 0.749 | 7.2 / 0.591 | 6.9 / 0.300 | 1.2 / 0.031 | 0 / 0.000 | 91 / 1.491 | | 0.0 / 0.000 | | | 0.06 | | | | 18 | 67 | 0 | 0.6 | | USGS |
| Sep 15 1500 | 3,090 | 61 | 8.5 | 86 | 135 | | 17 / 0.848 | 7.4 / 0.612 | 8.8 / 0.383 | 1.5 / 0.038 | 0 / 0.000 | 94 / 1.541 | 11 / 0.229 | 5.0 / 0.141 | 0.7 / 0.011 | 0.3 / 0.016 | 0.09 | 21 | Al 0.10; (a) | 119[b] | 20 | 73 | 0 | 0.5 | | USGS |
| Oct 6 1730 | 3,030 | 59 | 10.9 | 107 | 206 | 7.2 | 18 / 0.898 | 8.4 / 0.694 | 11 / 0.478 | 1.8 / 0.046 | 0 / 0.000 | 104 / 1.705 | | 4.8 / 0.135 | | | 0.19 | | | | 23 | 80 | 0 | 2 | | USGS |
| Nov 16 1430 | 4,[illegible]00 | 44 | 12.0 | 98 | 183 | 6.9 | 17 / 0.848 | 7.9 / 0.652 | 9.0 / 0.392 | 1.4 / 0.036 | 0 / 0.000 | 93 / 1.524 | | 5.9 / 0.166 | | | 0.14 | | | | 20 | 75 | 0 | 4 | | USGS |
| Dec 7 1730 | 33,300 | 47 | 11.0 | 93 | 94.6 | 7.0 | 10 / 0.499 | 4.6 / 0.381 | 3.7 / 0.161 | 0.8 / 0.020 | 0 / 0.000 | 49 / 0.803 | | 2.3 / 0.065 | | | 0.05 | | | | 15 | 44 | 4 | 45 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2.3 minimum .06 maximum 24 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Klamath River near Klamath** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1315 | 107,000 | 52 | 12.0 | 108 | 122 | 6.6 | 12 / 0.599 | 5.6 / 0.461 | 4.3 / 0.187 | 1.1 / 0.028 | 0 / 0.000 | 65 / 1.065 | | 0.0 / 0.000 | | | 0.02 | | | | 15 | 53 | 0 | 300 | | USGS |
| Feb 9 1015 | 27,000 | 43 | 12.6 | 101 | 150 | 6.9 | 15 / 0.748 | 6.5 / 0.532 | 6.1 / 0.265 | 1.1 / 0.028 | 0 / 0.000 | 81 / 1.328 | | 1.2 / 0.034 | | | 0.07 | | | | 17 | 64 | 0 | 50 | | USGS |
| Mar 7 1500 | 34,900 | 46 | 12.6 | 105 | 145 | 6.9 | 18 / 0.898 | 4.4 / 0.362 | 5.3 / 0.231 | 0.9 / 0.023 | 0 / 0.000 | 84 / 1.377 | | 1.1 / 0.031 | | | 0.07 | | | | 15 | 63 | 0 | 60 | | USGS |
| Apr 3 1015 | 31,400 | 50 | 11.4 | 100 | 134 | 7.2 | 13 / 0.649 | 6.6 / 0.539 | 5.0 / 0.218 | 1.0 / 0.026 | 0 / 0.000 | 81 / 1.328 | | 1.0 / 0.028 | | | 0.05 | | | | 15 | 59 | 0 | 40 | | USGS |
| May 10 1200 | 30,100 | 56 | 10.8 | 103 | 116 | 7.8* | 13 / 0.649 | 4.3 / 0.352 | 5.0 / 0.218 | 0.9 / 0.023 | 0 / 0.000 | 68 / 1.115 | 4.8 / 0.100 | 1.1 / 0.031 | 0.5 / 0.008 | 0.3 / 0.016 | 0.04 | 15 | Fe 0.05; Al 0.05; Cu 0.01; As 0.03; $PO_4$ 0.10 | 78[b] | 18 | 50 | 0 | 30 | | USGS |
| June 14 1300 | 16,900 | 60 | 9.4 | 94 | 110 | 6.8 | 10 / 0.499 | 5.2 / 0.429 | 4.9 / 0.213 | 1.1 / 0.028 | 0 / 0.000 | 63 / 1.033 | | 1.5 / 0.042 | | | 0.00 | | | | 18 | 46 | 0 | 15 | | USGS |
| July 4 0930 | No record | 68 | 8.8 | 96 | 147 | 7.9 | 14 / 0.699 | 6.8 / 0.561 | 6.2 / 0.270 | 1.3 / 0.033 | 0 / 0.000 | 81 / 1.328 | | 3.0 / 0.085 | | | 0.01 | | | | 17 | 63 | 0 | 5 | | USGS |
| Aug 9 1020 | 4,260 | 70 | 9.0 | 100 | 224 | 6.9 | 20 / 0.998 | 10 / 0.822 | 13 / 0.566 | 1.8 / 0.046 | 0 / 0.000 | 112 / 1.836 | | 5.5 / 0.155 | | | 0.10 | | | | 23 | 91 | 0 | 20 | | USGS |
| Sept 13 1000 | 3,380 | 63 | 10.8 | 110 | 258 | 7.1 | 21 / 1.048 | 9.6 / 0.792 | 17 / 0.740 | 3.0 / 0.077 | 0 / 0.000 | 114 / 1.868 | 29 / 0.604 | 5.9 / 0.166 | 1.5 / 0.024 | 0.0 / 0.000 | 0.14 | 24 | Al 0.04; $PO_4$ 35; (a) | 167[b] | 28 | 92 | 0 | 1.0 | | USGS |
| Oct 2 1600 | 2,530 | 68 | 10.2 | 111 | 280 | 7.6 | 21 / 1.048 | 10 / 0.836 | 21 / 0.914 | 2.6 / 0.067 | 0 / 0.000 | 114 / 1.868 | | 16 / 0.451 | | | 0.08 | | | | 32 | 94 | 1 | 3 | | USGS |
| Nov 2 1020 | 15,100 | 48 | 12.8 | 110 | 139 | 7.6 | 13 / 0.649 | 6.0 / 0.495 | 5.9 / 0.257 | 1.3 / 0.033 | 0 / 0.000 | 70 / 1.147 | | 3.6 / 0.102 | | | 0.05 | | | | 18 | 57 | 0 | 60 | | USGS |
| Dec 6 1110 | 5,900 | 41 | 12.2 | 96 | 198 | 7.4 | 16 / 0.80 | 7.1 / 0.58 | 12 / 0.52 | 1.6 / 0.04 | 0 / 0.00 | 93 / 1.52 | | 5.5 / 0.16 | | | 0.04 | | | | 27 | 69 | 0 | 15 | median 2.3 minimum .23 maximum 230 | USGS |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Klamath River at Somesbar** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 5 0850 | 5,640 | 39 | 14.0 | 106 | 138 | 7.2 | 13 / 0.649 | 6.3 / 0.521 | 5.3 / 0.230 | 0.9 / 0.023 | 0 / 0.000 | 75 / 1.229 | | 3.8 / 0.107 | | | 0.02 | | | | 16 | 58 | 0 | 2 | | USGS |
| Feb 9 0900 | 5,980 | 44 | 13.0 | 106 | 176 | 7.7 | 16 / 0.798 | 8.3 / 0.682 | 9.0 / 0.391 | 1.2 / 0.031 | 0 / 0.000 | 95 / 1.557 | | 4.8 / 0.135 | | | 0.06 | | | | 21 | 74 | 0 | 3 | | USGS |
| Mar 12 1045 | 4,370 | 45 | 12.2 | 100 | 181 | 7.4 | 16 / 0.798 | 8.5 / 0.702 | 9.4 / 0.409 | 1.6 / 0.041 | 0 / 0.000 | 91 / 1.491 | | 4.2 / 0.118 | | | 0.07 | | | | 21 | 75 | 0 | 2 | | USGS |
| Apr 6 0800 | 4,680 | 47 | 12.0 | 101 | 162 | 8.1 | 11 / 0.549 | 9.9 / 0.811 | 7.2 / 0.313 | 1.1 / 0.028 | 0 / 0.000 | 82 / 1.344 | | 3.3 / 0.093 | | | 0.04 | | | | 18 | 68 | 1 | 4 | | USGS |
| May 9 2000 | 9,800 | 62 | 10.4 | 106 | 94.7 | 6.8 | 11 / 0.549 | 3.1 / 0.251 | 3.6 / 0.157 | 0.9 / 0.023 | 0 / 0.000 | 52 / 0.852 | 5.5 / 0.115 | 1.5 / 0.042 | 0.5 / 0.008 | 0.0 / 0.000 | 0.09 | 5.3 | Fe 0.01; Al 0.04; Pb 0.005; (a) $PO_4$ 0.00 | 57[b] | 16 | 40 | 0 | 2 | | USGS |
| Jun 8 0830 | 7,050 | 65 | 9.4 | 99 | 93.3 | 7.5 | 11 / 0.549 | 2.6 / 0.215 | 4.1 / 0.178 | 0.8 / 0.020 | 0 / 0.000 | 50 / 0.819 | | 2.0 / 0.056 | | | 0.04 | | Al 0.04 (a) | | 19 | 38 | 0 | 0.8 | | USGS |
| Jul 12 1945 | 2,960 | 74 | 9.2 | 107 | 149 | 7.3 | 14 / 0.699 | 6.6 / 0.541 | 6.6 / 0.287 | 1.2 / 0.031 | 0 / 0.000 | 82 / 1.344 | | 4.0 / 0.113 | | | 0.15 | | | | 18 | 62 | 0 | 0.8 | | USGS |
| Aug 2 1315 | 1,280 | 76 | 9.2 | 108 | 162 | 8.4 | 14 / 0.699 | 6.3 / 0.521 | 8.4 / 0.365 | 1.8 / 0.046 | 0 / 0.000 | 86 / 1.409 | | 3.0 / 0.085 | | | 0.07 | | | | 22 | 61 | 0 | 0.9 | | USGS |
| Sep 14 0905 | 1,670 | 62 | 9.4 | 96 | 193 | | 15 / 0.749 | 7.9 / 0.651 | 12 / 0.522 | 2.1 / 0.054 | 0 / 0.000 | 99 / 1.622 | 11 / 0.229 | 5.7 / 0.161 | 0.9 / 0.015 | 0.4 / 0.021 | 0.09 | 26 | Fe 0.04; Al 0.02; (a) | 130[b] | 26 | 70 | 0 | 2.0 | | USGS |
| Oct 5 0800 | 2,010 | 58 | 9.7 | 95 | 216 | 7.2 | 15 / 0.748 | 9.7 / 0.800 | 15 / 0.652 | 2.2 / 0.056 | 0 / 0.000 | 106 / 1.737 | | 5.5 / 0.155 | | | 0.12 | | | | 29 | 77 | 0 | 4 | | USGS |
| Nov 16 0850 | 2,430 | 40 | 12.4 | 96 | 199 | 6.9 | 16 / 0.798 | 8.0 / 0.662 | 13 / 0.566 | 2.0 / 0.051 | 0 / 0.000 | 101 / 1.655 | | 6.2 / 0.175 | | | 0.15 | | | | 27 | 73 | 0 | 3 | | USGS |
| Dec 7 0810 | 13,700 | 48 | 11.0 | 95 | 127 | 7.0 | 12 / 0.599 | 5.2 / 0.429 | 6.1 / 0.265 | 1.1 / 0.028 | 0 / 0.000 | 65 / 1.065 | | 2.0 / 0.056 | | | 0.00 | | | | 20 | 51 | 0 | 17 | median 6.2 minimum .06 maximum 230 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Klamath River at Somesbar** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 3 1230 | 19,100 | 51 | 12.0 | 107 | 148 | 8.0 | 13 / 0.649 | 6.9 / 0.571 | 7.2 / 0.313 | 1.4 / 0.036 | 0 / 0.000 | 87 / 1.426 | | 1.0 / 0.028 | | | 0.06 | | | | 20 | 61 | 0 | 30 | | USGS |
| May 9 1300 | 19.800 | 56 | 10.6 | 101 | 128 | 7.1* | 13 / 0.649 | 5.2 / 0.431 | 6.5 / 0.283 | 1.2 / 0.031 | 0 / 0.000 | 75 / 1.229 | 8.0 / 0.167 | 0.6 / 0.017 | 0.5 / 0.008 | 0.3 / 0.016 | 0.00 | 18 | Fe 0.03; Al 0.03; Cu 0.01; Zn 0.03; As 0.01; $PO_4$ 0.15 (a) | 90[b] | 20 | 54 | 0 | 9 | | USGS |
| June 13 1100 | 13,300 | 45 | 10.2 | 108 | 121 | 6.8 | 11 / 0.549 | 5.0 / 0.415 | 6.3 / 0.274 | 1.4 / 0.036 | [illegible] / [illegible] | 67 / 1.098 | | 1.5 / 0.042 | | | 0.00 | | | | 22 | 48 | 0 | 5 | | USGS |
| July 5 1500 | **8,600 | 72 | 9.0 | 102 | 192 | 8.2 | 16 / 0.798 | 7.8 / 0.682 | 12 / 0.522 | 2.[illegible] / 0.054 | 0 / 0.000 | 89 / 1.459 | | 3.5 / 0.099 | | | 0.08 | | | | 25 | 72 | 0 | 2 | | USGS |
| Aug 8 1530 | 4,250 | 73 | 8.6 | 99 | 222 | 7.1 | 20 / 0.998 | 9.8 / 0.802 | 13 / 0.566 | 1.9 / 0.049 | 0 / 0.000 | 114 / 1.868 | | 5.0 / 0.141 | | | 0.03 | | | | 23 | 90 | 0 | 20 | | USGS |
| Sept 12 1630 | 2,530 | 69 | 10.4 | 114 | 289 | 7.1 | 21 / 1.048 | 11 / 0.912 | 22 / 0.957 | 3.4 / 0.087 | 0 / 0.00 | 124 / 2.032 | 35 / 0.729 | 7.0 / 0.197 | 2.1 / 0.034 | 0.0 / 0.000 | 0.14 | 29 | Al 0.08; Cu 0.01; Zn 0.02; $PO_4$ 0.50; (a) | 192[b] | 32 | 98 | 0 | 0.8 | | USGS |
| Oct 1 1720 | 1,870 | 69 | 10.3 | 113 | 255 | 7.5 | 19 / 0.948 | 10 / 0.840 | 18 / 0.783 | 2.8 / 0.072 | 0 / 0.000 | 113 / 1.852 | | 5.7 / 0.161 | | | 0.06 | | | | 30 | 89 | 0 | 3 | | USGS |
| Nov 1 1240 | 9,410 | 49 | 12.8 | 111 | 166 | 7.2 | 14 / 0.699 | 7.5 / 0.613 | 8.6 / 0.374 | 1.4 / 0.036 | 0 / 0.000 | 82 / 1.344 | | 3.5 / 0.099 | | | 0.05 | | | | 22 | 66 | 0 | 05 | | USGS |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median 3.5 minimum .62 maximum 230 | |

** Not revised
*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.
b Determined by addition of analysed constituents
c Gravimetric determination.
d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River, East Fork near Calpella** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 3 1820 | 394 | 42 | 12.4 | 98 | 141 | 7.2 | 17 / 0.848 | 4.5 / 0.372 | 4.9 / 0.213 | 0.8 / 0.020 | 0 / 0.000 | 76 / 1.246 | | 3.0 / 0.085 | | | 0.40 | | | | 15 | 61 | 0 | 10 | | USGS |
| Feb 7 1500 | 358 | 50 | 11.7 | 103 | 169 | 7.7 | 20 / 0.998 | 6.3 / 0.522 | 6.3 / 0.274 | 0.7 / 0.018 | 0 / 0.000 | 90 / 1.475 | | 3.5 / 0.099 | | | 0.27 | | | | 15 | 76 | 2 | 6 | | USGS |
| Mar 1 1440 | 394 | 48 | 12.0 | 103 | 183 | 8.2 | 17 / 0.848 | 9.1 / 0.752 | 6.6 / 0.287 | 0.8 / 0.020 | 0 / 0.000 | 96 / 1.573 | | 3.0 / 0.085 | | | 0.27 | | | | 15 | 80 | 1 | 2 | | USGS |
| Apr 4 1500 | 103 | 54 | 10.6 | 99 | 206 | 8.2 | 22 / 1.098 | 8.5 / 0.702 | 8.0 / 0.348 | 1.0 / 0.026 | 0 / 0.000 | 113 / 1.852 | | 4.5 / 0.127 | | | 0.46 | | | | 16 | 90 | 0 | 6 | | USGS |
| May 2 1500 | 361 | 60 | 10.1 | 101 | 171 | 7.1 | 21 / 1.048 | 6.2 / 0.512 | 6.2 / 0.270 | 0.7 / 0.018 | 0 / 0.000 | 93 / 1.524 | 10 / 0.208 | 4.0 / 0.113 | 0.1 / 0.002 | 0.1 / 0.005 | 0.26 | 11 | Fe 0.07; Al 0.07; Pb 0.005 (a) $PO_4$ 0.00 | 105[b] | 15 | 78 | 2 | 4 | | USGS |
| Jun 23 1400 | 173 | 69 | 9.6 | 106 | 173 | 7.3 | 20 / 0.998 | 6.0 / 0.492 | 6.2 / 0.270 | 1.0 / 0.026 | 0 / 0.000 | 94 / 1.541 | | 3.2 / 0.090 | | | 0.20 | | Al 0.04 (a) | | 15 | 74 | 0 | 1 | | USGS |
| Jul 11 1600 | 177 | 74 | 8.9 | 103 | 174 | 7.3 | 19 / 0.948 | 7.0 / 0.572 | 6.6 / 0.287 | 1.2 / 0.031 | 0 / 0.000 | 94 / 1.541 | | 3.8 / 0.107 | | | 0.33 | | | | 16 | 76 | 0 | 10 | | USGS |
| Aug 1 1240 | 193 | 74 | 9.0 | 104 | 168 | 8.2 | 20 / 0.998 | 6.3 / 0.522 | 5.9 / 0.257 | 0.8 / 0.020 | 0 / 0.000 | 97 / 1.590 | | 3.2 / 0.090 | | | 0.38 | | | | 14 | 76 | 0 | 3 | | USGS |
| Sep 12 1730 | 193 | 76 | 8.3 | 98 | 185 | 7.1 | 20 / 0.998 | 7.0 / 0.574 | 6.3 / 0.274 | 0.9 / 0.023 | 0 / 0.000 | 99 / 1.622 | 8.4 / 0.175 | 3.5 / 0.099 | 0.3 / 0.005 | 0.2 / 0.011 | 0.41 | 8.5 | Fe 0.04; Al 0.08; (a) | 105[b] | 14 | 79 | 0 | 2.0 | | USGS |
| Oct 3 1715 | 206 | 62 | 9.0 | 92 | 185 | 7.1 | 21 / 1.048 | 6.8 / 0.556 | 6.5 / 0.283 | 0.8 / 0.020 | 0 / 0.000 | 101 / 1.655 | | 2.5 / 0.070 | | | 0.42 | | | | 15 | 80 | 0 | 3 | | USGS |
| Nov 14 1630 | 280 | 50 | 11.2 | 99 | 196 | 6.9 | 22 / 1.098 | 7.0 / 0.578 | 6.8 / 0.296 | 1.0 / 0.026 | 0 / 0.000 | 102 / 1.672 | | 3.8 / 0.107 | | | 0.46 | | | | 15 | 84 | 0 | 4 | | USGS |
| Dec 5 1630 | 715 | 48 | 9.0 | 77 | 187 | 6.9 | 20 / 0.998 | 7.3 / 0.602 | 7.6 / 0.331 | 1.8 / 0.046 | 0 / 0.000 | 90 / 1.475 | | 5.6 / 0.158 | | | 0.68 | | | | 17 | 80 | 6 | 340 | median 62 minimum 1.3 maximum 620 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp. in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River, East Fork near Calpella** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1520 | 1,450 | 54 | 10.8 | 100 | 135 | 7.6 | 13 / 0.649 | 6.2 / 0.511 | 4.0 / 0.174 | 1.3 / 0.033 | 0 / 0.000 | 72 / 1.180 | | 2.0 / 0.056 | | | 0.05 | | | | 13 | 58 | 0 | 270 | | USGS |
| Feb 16 1820 | 379 | 45 | 12.0 | 99 | 153 | 6.9 | 17 / 0.848 | 6.1 / 0.500 | 5.3 / 0.231 | 0.8 / 0.020 | 0 / 0.000 | 84 / 1.377 | | 1.1 / 0.031 | | | 0.18 | | | | 14 | 67 | 0 | 60 | | USGS |
| Mar 5 1610 | 751 | 47 | 11.5 | 98 | 157 | 7.1 | 16 / 0.798 | 7.6 / 0.622 | 5.7 / 0.248 | 1.1 / 0.028 | 0 / 0.000 | 85 / 1.393 | | 4.0 / 0.113 | | | 0.28 | | | | 15 | 71 | 1 | 60 | | USGS |
| Apr 2 1300 | 347 | 53 | 10.8 | 99 | 149 | 7.3 | 16 / 0.798 | 6.6 / 0.542 | 4.9 / 0.213 | 0.8 / 0.020 | 0 / 0.000 | 88 / 1.442 | | 0.0 / 0.000 | | | 0.12 | | | | 14 | 67 | 0 | 35 | | USGS |
| May 7 1630 | 331 | 60 | 9.8 | 98 | 152 | 7.8* | 18 / 0.898 | 5.6 / 0.462 | 5.0 / 0.218 | 0.9 / 0.023 | 0 / 0.000 | 86 / 1.410 | 8.0 / 0.167 | 0.2 / 0.006 | 0.4 / 0.006 | 0.3 / 0.016 | 0.22 | 12 | Fe 0.04; Al 0.03; Cu 0.01; Zn 0.01; $PO_4$ 0.10 (a) | 93[b] | 14 | 68 | 0 | 30 | | USGS |
| June 11 1730 | 127 | 69 | 8.4 | 92 | 162 | 7.1 | 18 / 0.898 | 6.5 / 0.534 | 5.4 / 0.235 | 1.1 / 0.028 | 0 / 0.000 | 91 / 1.491 | | 1.9 / 0.054 | | | 0.24 | | | | 14 | 72 | 0 | 2 | | USGS |
| July 2 1530 | 184 | 72 | 8.8 | 100 | 149 | 7.7 | 18 / 0.898 | 7.8 / 0.642 | 4.6 / 0.200 | 0.9 / 0.023 | 0 / 0.000 | 86 / 1.410 | | 2.0 / 0.056 | | | 0.17 | | | | 11 | 77 | 6 | 0.6 | | USGS |
| Aug 6 1650 | 209 | 74 | 9.2 | 107 | 152 | 7.6 | 18 / 0.898 | 5.9 / 0.482 | 5.2 / 0.226 | 0.9 / 0.023 | 0 / 0.000 | 90 / 1.475 | | 1.5 / 0.042 | | | 0.21 | | | | 14 | 69 | 0 | 3 | | USGS |
| Sept 11 1410 | 239 | 70 | 10.2 | 114 | 166 | 6.8 | 20 / 0.998 | 6.1 / 0.502 | 5.4 / 0.235 | 1.0 / 0.026 | 0 / 0.000 | 98 / 1.606 | 5.6 / 0.117 | 2.3 / 0.065 | 0.4 / 0.006 | 0.0 / 0.000 | 0.35 | 8.8 | Al 0.01; Cu 0.01; Zn 0.03; $PO_4$ 0.10; (a) | 98[b] | 13 | 75 | 0 | 0.8 | | USGS |
| Oct 5 1540 | 216 | 70 | 9.4 | 104 | 174 | 7.8 | 21 / 1.048 | 6.6 / 0.540 | 5.6 / 0.244 | 0.8 / 0.020 | 0 / 0.000 | 104 / 1.705 | | 2.9 / 0.082 | | | 0.32 | | | | 13 | 79 | 0 | 1 | | USGS |
| Nov 4 1040 | 247 | 52 | 12.0 | 108 | 204 | 7.6 | 22 / 1.098 | 8.0 / 0.658 | 7.7 / 0.335 | 0.8 / 0.020 | 0 / 0.000 | 110 / 1.803 | | 5.0 / 0.141 | | | 0.48 | | | | 16 | 88 | 0 | 9 | | USGS |
| Dec 3 1600 | 25 | 47 | 11.8 | 100 | 222 | 8.0 | 26 / 1.30 | 8.0 / 0.66 | 7.4 / 0.32 | 0.8 / 0.02 | 0 / 0.00 | 124 / 2.03 | | 5.0 / 0.14 | | | 0.29 | | | | 14 | 98 | 0 | 0.8 | median 23; minimum .23; maximum 2400 | USGS |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River, East Fork at Potter Valley Power House** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 3 1900 | 310 | 41 | 13.0 | 102 | 141 | 7.1 | 17 / 0.848 | 4.6 / 0.382 | 4.7 / 0.204 | 0.9 / 0.023 | 0 / 0.000 | 75 / 1.229 | | 3.2 / 0.090 | | | 0.32 | | | | 14 | 62 | 0 | 8 | | USGS |
| Feb 7 1430 | 308 | 46 | | | 147 | 7.5 | 18 / 0.898 | 4.8 / 0.392 | 5.5 / 0.239 | 0.6 / 0.015 | 0 / 0.000 | 78 / 1.278 | | 3.5 / 0.099 | | | 0.24 | | | | 15 | 64 | 0 | 9 | | USGS |
| Mar 1 1500 | 322 | 43 | 12.4 | 100 | 155 | 7.9 | 15 / 0.749 | 7.5 / 0.619 | 5.6 / 0.244 | 0.8 / 0.020 | 0 / 0.000 | 84 / 1.377 | | 3.8 / 0.107 | | | 0.28 | | | | 15 | 68 | 0 | 2 | | USGS |
| Apr 4 1415 | 85 | 54 | 10.2 | 95 | 176 | 7.8 | 21 / 1.048 | 5.5 / 0.452 | 6.8 / 0.296 | 1.0 / 0.026 | 0 / 0.000 | 94 / 1.541 | | 4.0 / 0.113 | | | 0.49 | | | | 16 | 75 | 0 | 6 | | USGS |
| May 2 1530 | 324 | 58 | 10.5 | 102 | 148 | 6.9 | 18 / 0.898 | 4.9 / 0.402 | 5.3 / 0.230 | 0.8 / 0.020 | 0 / 0.000 | 79 / 1.295 | 8.4 / 0.175 | 4.2 / 0.118 | 0.2 / 0.003 | 0.1 / 0.005 | 0.23 | 9.3 | Fe 0.1; Al 0.02; (a) $PO_4$ 0.00 | 90[b] | 15 | 65 | 0 | 2 | | USGS |
| Jun 23 1500 | 226 | 65 | 9.8 | 103 | 156 | 7.4 | 21 / 1.048 | 4.0 / 0.332 | 5.4 / 0.235 | 0.5 / 0.013 | 0 / 0.000 | 86 / 1.409 | | 3.2 / 0.090 | | | 0.26 | | Al 0.03; (a) | | 14 | 69 | 0 | 0.8 | | USGS |
| Jul 11 1515 | 212 | 70 | 8.6 | 95 | 158 | 7.1 | 19 / 0.948 | 5.3 / 0.432 | 5.4 / 0.235 | 0.6 / 0.015 | 0 / 0.000 | 86 / 1.409 | | 3.2 / 0.090 | | | 0.33 | | | | 14 | 69 | 0 | 2 | | USGS |
| Aug 1 1300 | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 12 1700 | 231 | 74 | 7.8 | 90 | 175 | 7.1 | 21 / 1.048 | 5.4 / 0.448 | 5.7 / 0.248 | 0.7 / 0.018 | 0 / 0.000 | 96 / 1.573 | 7.0 / 0.146 | 3.4 / 0.096 | 0.3 / 0.005 | 0.1 / 0.005 | 0.35 | 7.7 | Fe 0.02; Al 0.03; Cu 0.01; (a) | 99[b] | 14 | 75 | 0 | 2.0 | | USGS |
| Oct 3 1800 | 231 | 61 | 9.0 | 90 | 177 | 7.0 | 21 / 1.048 | 6.7 / 0.552 | 6.3 / 0.274 | 0.6 / 0.015 | 0 / 0.000 | 97 / 1.590 | | 2.7 / 0.075 | | | 0.37 | | | | 15 | 80 | 0 | 5 | | USGS |
| Nov 14 1550 | 231 | 50 | 8.8 | 86 | 190 | 6.9 | 23 / 1.148 | 6.5 / 0.532 | 6.9 / 0.300 | 1.0 / 0.026 | 0 / 0.000 | 102 / 1.672 | | 5.0 / 0.141 | | | 0.59 | | | | 15 | 84 | 0 | 6 | | USGS |
| Dec 5 1730 | 240 | 47 | 10.0 | 85 | 207 | 6.8 | 26 / 1.297 | 5. / 0.463 | 8.7 / .78 | 0.9 / 0.023 | 0 / 0.000 | 106 / 1.737 | | 6.8 / 0.192 | | | 0.75 | | | | 17 | 88 | 1 | 44 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2.3 minimum .045 - maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River, East Fork at Potter Valley Power House** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 16 1745 | 318 | 44 | 11.5 | 94 | 123 | 6.9 | 14 / 0.699 | 4.5 / 0.373 | 4.2 / 0.183 | 0.8 / 0.020 | 0 / 0.000 | 67 / 1.098 | | 0.0 / 0.000 | | | 0.11 | | | | 14 | 54 | 0 | 45 | | USGS |
| Mar 5 1525 | 317 | 46 | 11.6 | 97 | 96.8 | 7.1 | 12 / 0.599 | 3.2 / 0.261 | 3.3 / 0.144 | 1.0 / 0.026 | 0 / 0.000 | 54 / 0.885 | | 2.0 / 0.056 | | | 0.31 | | | | 14 | 43 | 0 | 95 | | USGS |
| Apr 2 1220 | 320 | 52 | 10.4 | 94 | 122 | 8.8 | 12 / 0.599 | 5.8 / 0.481 | 4.0 / 0.174 | 0.9 / 0.023 | 0 / 0.000 | 75 / 1.229 | | 0.0 / 0.000 | | | 1.5 | | | | 14 | 54 | 0 | 40 | | USGS |
| May 7 1600 | 320 | 58 | 10.0 | 97 | 139 | 7.8* | 17 / 0.848 | 4.9 / 0.400 | 4.4 / 0.191 | 0.8 / 0.020 | 0 / 0.000 | 80 / 1.311 | 6.4 / 0.133 | 2.1 / 0.059 | 0.4 / 0.006 | 0.1 / 0.005 | 0.15 | 12 | Fe 0.01; Al 0.07; Cu 0.01; Zn 0.02; $PO_4$ 0.09 (a) | 87[b] | 13 | 62 | 0 | 15 | | USGS |
| June 11 1700 | 150 | 67 | 8.7 | 94 | | 6.9 | | | | | | | | | | | | | | | | | | | | |
| July 2 1610 | 225 | 64 | 8.8 | 92 | 133 | 7.7 | 17 / 0.848 | 4.3 / 0.352 | 3.9 / 0.170 | 0.7 / 0.018 | 0 / 0.000 | 78 / 1.278 | | 1.5 / 0.042 | | | 0.19 | | | | 12 | 60 | 0 | 2 | | USGS |
| Aug 6 1600 | 252 | 68 | 9.4 | 103 | 142 | 6.8 | 17 / 0.848 | 5.7 / 0.472 | 5.0 / 0.218 | 0.8 / 0.020 | 0 / 0.000 | 85 / 1.393 | | 1.5 / 0.042 | | | 0.19 | | | | 14 | 66 | 0 | 2 | | USGS |
| Sept 11 1505 | 259 | 69 | 8.6 | 95 | 160 | 6.8 | 20 / 0.998 | 5.5 / 0.450 | 5.0 / 0.218 | 0.9 / 0.073 | 0 / 0.000 | 94 / 1.541 | 3.8 / 0.079 | 2.2 / 0.062 | 0.4 / 0.006 | 0.0 / 0.000 | 0.32 | 10 | Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 94[b] | 13 | 72 | 0 | 0.4 | | USGS |
| Oct 5 1500 | 230 | 69 | 9.8 | 108 | 168 | 8.0 | 21 / 1.048 | 5.7 / 0.472 | 5.0 / 0.218 | 0.6 / 0.015 | 0 / 0.000 | 100 / 1.639 | | 3.0 / 0.085 | | | 0.27 | | | | 12 | 76 | 0 | 0.9 | | USGS |
| Nov 4 1000 | 301 | 54 | 10.0 | 93 | 198 | 7.4 | 23 / 1.148 | 6.8 / 0.560 | 7.7 / 0.335 | 0.8 / 0.020 | 0 / 0.000 | 109 / 1.787 | | 5.3 / 0.149 | | | 0.64 | | | | 16 | 85 | 0 | 30 | | USGS |
| Dec 3 1515 | No Record | 49 | 11.2 | 98 | 205 | 7.9 | 26 / 1.30 | 6.9 / 0.57 | 7.0 / 0.30 | 0.8 / 0.02 | 0 / 0.000 | 118 / 1.93 | | 5.0 / 0.14 | | | 0.55 | | | | 14 | 93 | 0 | 0.9 | median 1.8 minimum .06 maximum 2400 | USGS |

* Not Reviseed

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Russian River at Guerneville | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 3 1320 | 2,050 | 50 | 10.3 | 91 | 185 | 7.1 | 18 / 0.898 | 9.0 / 0.742 | 6.7 / 0.291 | 1.4 / 0.036 | 0 / 0.000 | 95 / 1.557 | | 4.8 / 0.135 | | | 0.24 | | | | 15 | 82 | 4 | 55 | | USGS |
| Feb 7 0930 | 1,320 | 44 | 11.1 | 90 | 251 | 7.4 | 24 / 1.198 | 13 / 1.082 | 10 / 0.435 | 1.1 / 0.028 | 0 / 0.000 | 132 / 2.163 | | 7.0 / 0.197 | | | 0.32 | | | | 16 | 144 | 6 | 10 | | USGS |
| Mar 1 1200 | 1,680 | 48 | 15.4 | 132 | 225 | 8.4 | 17 / 0.848 | 13 / 1.032 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 112 / 1.836 | | 8.0 / 0.226 | | | 0.57 | | | | 18 | 94 | 2 | 30 | | USGS |
| Apr 4 1000 | 421 | 56 | 10.2 | 97 | 312 | 7.9 | 29 / 1.447 | 15 / 1.233 | 15 / 0.652 | 1.3 / 0.033 | 0 / 0.000 | 170 / 2.786 | | 10 / 0.282 | | | 1.4 | | | | 19 | 134 | 0 | 6 | | USGS |
| May 2 0900 | 2,060 | 60 | 9.0 | 90 | 237 | 6.9 | 23 / 1.148 | 12 / 0.992 | 9.0 / 0.391 | 1.2 / 0.031 | 0 / 0.000 | 126 / 2.065 | 14 / 0.291 | 6.5 / 0.183 | 0.9 / 0.015 | 0.1 / 0.005 | 0.28 | 16 | Mn 0.01; (a) $PO_4$ 0.25 | 145[b] | 15 | 107 | 4 | 20 | | USGS |
| Jun 24 0950 | 212 | 74 | 8.0 | 93 | 305 | 7.6 | 30 / 1.497 | 15 / 1.207 | 13 / 0.565 | 1.3 / 0.033 | 0 / 0.000 | 170 / 2.786 | | 9.9 / 0.279 | | | 1.8 | | Al 0.05 (a) | | 17 | 135 | 0 | 0.8 | | USGS |
| Jul 11 0900 | 186 | 76 | 8.2 | 97 | 313 | 7.3 | 28 / 1.398 | 16 / 1.302 | 15 / 0.652 | 1.3 / 0.033 | 0 / 0.000 | 174 / 2.852 | | 11 / 0.310 | | | 2.4 | | | | 19 | 135 | 0 | 2 | | USGS |
| Aug 1 0950 | 148 | 74 | 8.2 | 95 | 318 | 8.1 | 27 / 1.347 | 16 / 1.353 | 15 / 0.652 | 1.4 / 0.036 | 0 / 0.000 | 181 / 2.966 | | 12 / 0.338 | | | 2.6 | | | | 19 | 135 | 0 | 7 | | USGS |
| Sep 12 1215 | 148 | 76 | 8.2 | 97 | 312 | 8.2 | 23 / 1.148 | 18 / 1.472 | 15 / 0.652 | 1.4 / 0.036 | 0 / 0.000 | 169 / 2.770 | 11 / 0.229 | 12 / 0.338 | 1.2 / 0.019 | 0.0 / 0.000 | 2.6 | 15 | Al 0.07; Cu 0.02; (a) | 182[b] | 20 | 131 | 0 | 5 | | USGS |
| Oct 3 1300 | 181 | 70 | 9.0 | 100 | 308 | 7.2 | 26 / 1.297 | 14 / 1.167 | 16 / 0.696 | 1.4 / 0.036 | 0 / 0.000 | 163 / 2.672 | | 12 / 0.338 | | | 3.0 | | | | 22 | 123 | 0 | 4 | | USGS |
| Nov 14 1200 | 257 | 50 | 8.2 | 72 | 280 | 6.9 | 26 / 1.297 | 12 / 1.027 | 15 / 0.652 | 1.3 / 0.033 | 0 / 0.000 | 152 / 2.491 | | 10 / 0.282 | | | 1.5 | | | | 22 | 116 | 0 | 1 | | USGS |
| Dec 5 0940 | 383 | 50 | 7.5 | 66 | 276 | 6.8 | 27 / 1.347 | 12 / 0.993 | 14 / 0.609 | 2.5 / 0.064 | 0 / 0.000 | 136 / 2.229 | | 10 / 0.282 | | | 1.1 | | | | 20 | 117 | 5 | 30 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 17 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River at Guerneville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 0930 | 52,700 | 53 | 10.1 | 93 | 107 | 6.6 | 10 / 0.499 | 4.9 / 0.401 | 3.7 / 0.161 | 1.2 / 0.031 | 0 / 0.000 | 59 / 0.967 | | 1.8 / 0.051 | | | 0.05 | | | | 15 | 45 | 0 | 1000 | | USGS |
| Feb 17 1430 | 1,610 | 47 | 10.5 | 89 | 291 | 6.6 | 28 / 1.397 | 14 / 1.171 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 158 / 2.590 | | 6.3 / 0.178 | | | 0.77 | | | | 17 | 128 | 0 | 25 | | USGS |
| Mar 5 0950 | 4,610 | 52 | 10.2 | 93 | 211 | 6.9 | 20 / 0.998 | 11 / 0.882 | 7.9 / 0.344 | 1.5 / 0.038 | 0 / 0.000 | 115 / 1.885 | | 6.2 / 0.175 | | | 0.50 | | | | 15 | 94 | 0 | 80 | | USGS |
| Apr 2 0950 | 1,180 | 57 | 9.9 | 95 | 267 | 8.6 | 22 / 1.098 | 15 / 1.222 | 13 / 0.566 | 1.3 / 0.033 | 0 / 0.000 | 154 / 2.524 | | 6.0 / 0.169 | | | 1.2 | | | | 19 | 116 | 0 | 10 | | USGS |
| May 7 0940 | 1,200 | 63 | 8.6 | 89 | 231 | 7.8* | 27 / 1.347 | 10 / 0.849 | 12 / 0.522 | 1.5 / 0.038 | 0 / 0.000 | 138 / 2.262 | 12 / 0.250 | 6.2 / 0.175 | 1.5 / 0.024 | 0.3 / 0.016 | 0.87 | 19 | Fe 0.06; Al 0.06; Cu 0.01; As 0.01; $PO_4$ 0.30; (a) | 158 | 19 | 110 | 0 | 15 | | USGS |
| June 11 1230 | 327 | 76 | 8.8 | 104 | 305 | 7.4 | 27 / 1.347 | 18 / 1.485 | 15 / 0.652 | 1.6 / 0.041 | 0 / 0.000 | 165 / 2.704 | | 10 / 0.282 | | | 1.7 | | | | 18 | 142 | 7 | 5 | | USGS |
| July 2 0820 | 183 | 74 | 7.8 | 90 | 318 | 8.0 | 30 / 1.497 | 16 / 1.343 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 181 / 2.967 | | 10 / 0.282 | | | 2.1 | | | | 18 | 142 | 0 | 3 | | USGS |
| Aug 6 1030 | 158 | 78 | 8.2 | 99 | 322 | 7.3 | 29 / 1.447 | 17 / 1.413 | 16 / 0.696 | 1.5 / 0.038 | 0 / 0.000 | 184 / 3.016 | | 12 / 0.338 | | | 2.9 | | | | 19 | 143 | 0 | 3 | | USGS |
| Sept 11 0820 | 163 | 72 | 9.6 | 109 | 304 | 6.9 | 27 / 1.347 | 15 / 1.225 | 15 / 0.652 | 1.4 / 0.036 | 0 / 0.000 | 171 / 2.803 | 9.0 / 0.187 | 11 / 0.310 | 0.4 / 0.006 | 0.0 / 0.000 | 2.7 | 17 | Al 0.05; Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 182[b] | 20 | 129 | 0 | 1.0 | | USGS |
| Oct 18 1000 | 214 | 64 | 9.0 | 94 | 274 | 8.0 | 27 / 1.347 | 13 / 1.093 | 12 / 0.522 | 1.1 / 0.028 | 0 / 0.000 | 162 / 2.655 | | 7.4 / 0.209 | | | 1.2 | | | | 17 | 122 | 0 | 1 | | USGS |
| Nov 4 1620 | 422 | 59 | 10.6 | 104 | 256 | 7.6 | 24 / 1.198 | 12 / 1.010 | 11 / 0.478 | 1.8 / 0.046 | 0 / 0.000 | 135 / 2.213 | | 6.3 / 0.178 | | | 0.70 | | | | 17 | 110 | 0 | 30 | | USGS |
| Dec 3 0920 | 205 | 51 | 10.4 | 93 | 307 | 7.9 | 30 / 1.50 | 15 / 1.20 | 13 / 0.57 | 1.5 / 0.04 | 0 / 0.000 | 172 / 2.82 | | 9.8 / 0.28 | | | 0.63 | | | | 17 | 135 | 0 | 0.7 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 18 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH).

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Russian River near Healdsburg | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 3 1430 | 1,520 | 48 | 11.7 | 101 | 192 | 7.1 | 19 / 0.948 | 9.6 / 0.792 | 7.7 / 0.335 | 1.3 / 0.033 | 0 / 0.000 | 102 / 1.672 | | 4.5 / 0.127 | | | 0.39 | | | | 16 | 87 | 3 | 45 | | USGS |
| Feb 7 1100 | 926 | 52 | 11.4 | 103 | 257 | 7.4 | 25 / 1.248 | 12 / 0.992 | 12 / 0.522 | 0.9 / 0.023 | 0 / 0.000 | 136 / 2.229 | | 7.8 / 0.220 | | | 1.2 | | | | 19 | 112 | 0 | 7 | | USGS |
| Mar 6 1230 | 908 | 52 | 11.6 | 105 | 242 | 7.6 | 21 / 1.048 | 14 / 1.124 | 8.4 / 0.365 | 1.1 / 0.028 | 0 / 0.000 | 132 / 2.163 | | 5.3 / 0.149 | | | 0.34 | | | | 14 | 109 | 1 | 2 | | USGS |
| Apr 4 1045 | 324 | 58 | 11.0 | 107 | 293 | 8.2 | 27 / 1.347 | 16 / 1.325 | 11 / 0.478 | 1.0 / 0.026 | 0 / 0.000 | 168 / 2.753 | | 7.1 / 0.200 | | | 0.84 | | | | 15 | 134 | 0 | 2 | | USGS |
| May 2 1030 | 1,390 | 60 | 9.5 | 95 | 234 | 6.9 | 25 / 1.248 | 11 / 0.872 | 8.7 / 0.378 | 0.9 / 0.023 | 0 / 0.000 | 129 / 2.114 | 13 / 0.271 | 7.5 / 0.212 | 0.6 / 0.010 | 0.1 / 0.005 | 0.16 | 5.6 | Mn 0.01; Pb 0.005; (a) $PO_4$ 0.10 | 137[b] | 15 | 106 | 0 | 10 | | USGS |
| Jun 23 1110 | 196 | 70 | 7.8 | 87 | 306 | 7.2 | 31 / 1.547 | 12 / 0.825 | 16 / 0.696 | 1.5 / 0.038 | 0 / 0.000 | 164 / 2.688 | | 11 / 0.310 | | | 2.5 | | Al 0.08; Zn 0.01; (a) | | 21 | 129 | 0 | 1 | | USGS |
| Jul 11 1100 | 180 | 74 | 8. | 89 | 309 | 7.3 | 27 / 1.347 | 15 / 1.193 | 17 / 0.739 | 1.2 / 0.031 | 0 / 0.000 | 171 / 2.802 | | 12 / 0.338 | | | 3.1 | | | | 22 | 127 | 0 | 1 | | USGS |
| Aug 1 1100 | 141 | 72 | 8.0 | 91 | 314 | 7.3 | 27 / 1.347 | 15 / 1.213 | 16 / 0.696 | 1.2 / 0.031 | 0 / 0.000 | 173 / 2.835 | | 12 / 0.338 | | | 3.3 | | | | 21 | 128 | 0 | 1 | | USGS |
| Sep 12 1330 | 170 | 74 | 8.6 | 100 | 305 | 7.3 | 28 / 1.397 | 12 / 0.971 | 18 / 0.783 | 1.2 / 0.031 | 0 / 0.000 | 164 / 2.688 | 7.8 / 0.162 | 12 / 0.338 | 0.1 / 0.002 | 0.1 / 0.005 | 3.5 | 12 | Fe 0.02; Al 0.07; Cu 0.01; (a) | 176[b] | 25 | 118 | 0 | 2.0 | | USGS |
| Oct 3 1400 | 192 | 69 | 9.6 | 106 | 303 | 7.7 | 27 / 1.347 | 14 / 1.161 | 19 / 0.826 | 1.2 / 0.031 | 0 / 0.000 | 163 / 2.672 | | 11 / 0.310 | | | 4.3 | | | | 25 | 125 | 0 | 2 | | USGS |
| Nov 14 1245 | 279 | 50 | 11.0 | 97 | 245 | 6.9 | 26 / 1.297 | 11 / 0.875 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 137 / 2.245 | | 6.7 / 0.189 | | | 1.4 | | | | 18 | 109 | 0 | 0.6 | | USGS |
| Dec 5 1125 | 328 | 50 | 8.0 | 70 | 257 | 7.0 | 28 / 1.397 | 10 / 0.823 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 133 / 2.180 | | 7.8 / 0.220 | | | 1.4 | | | | 18 | 111 | 2 | 13 | median 13 minimum .13 maximum 620 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Russian River near Healdsburg | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1130 | 31,900 | 53 | 10.0 | 92 | 108 | 6.8 | 10 / 0.499 | 5.1 / 0.421 | 3.2 / 0.139 | 2.3 / 0.059 | 0 / 0.000 | 58 / 0.951 | | 2.0 / 0.056 | | | 0.11 | | | | 12 | 46 | 0 | 950 | | USGS |
| Feb 17 1345 | 1,080 | 46 | 10.0 | 84 | 256 | 6.8 | 24 / 1.198 | 12 / 1.026 | 10 / 0.435 | 1.2 / 0.031 | 0 / 0.000 | 139 / 2.278 | | 4.2 / 0.118 | | | 1.1 | | | | 16 | 111 | 0 | 30 | | USGS |
| Mar 5 1115 | 3,210 | 51 | 11.0 | 98 | 215 | 7.1 | 20 / 0.998 | 11 / 0.902 | 8.6 / 0.374 | 1.0 / 0.026 | 0 / 0.000 | 117 / 1.918 | | 6.5 / 0.183 | | | 0.66 | | | | 16 | 95 | 0 | 60 | | USGS |
| Apr 2 1000 | 852 | 56 | 10.4 | 99 | 261 | 8.4 | 22 / 1.098 | 14 / 1.142 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 150 / 2.458 | | 2.5 / 0.070 | | | 1.5 | | | | 19 | 112 | 0 | 15 | | USGS |
| May 7 1110 | 857 | 54 | 10.4 | 108 | 252 | 7.9* | 28 / 1.397 | 9.8 / 0.803 | 11 / 0.478 | 1.2 / 0.031 | 0 / 0.000 | 140 / 2.295 | 12 / 0.250 | 4.6 / 0.130 | 1.3 / 0.021 | 0.3 / 0.016 | 1.2 | 16 | Fe 0.02; Al 0.05; Cu 0.01; $PO_4$ 0.10 (a) | 154[b] | 18 | 110 | 0 | 20 | | USGS |
| June 11 1400 | 226 | 76 | 9.0 | 106 | 298 | 7.7 | 27 / 1.347 | 15 / 1.201 | 15 / 0.652 | 1.4 / 0.036 | 0 / 0.000 | 166 / 2.721 | | 8.5 / 0.240 | | | 2.4 | | | | 20 | 127 | 0 | 2 | | USGS |
| July 2 1000 | 160 | 75 | 8.0 | 94 | 313 | 8.2 | 29 / 1.447 | 16 / 1.333 | 16 / 0.696 | 1.4 / 0.036 | 0 / 0.000 | 177 / 2.901 | | 10 / 0.282 | | | 2.8 | | | | 20 | 139 | 0 | 1 | | USGS |
| Aug 6 1130 | 140 | 78 | 8.3 | 100 | 307 | 7.2 | 27 / 1.347 | 15 / 1.253 | 18 / 0.783 | 1.3 / 0.033 | 0 / 0.000 | 174 / 2.852 | | 12 / 0.338 | | | 3.4 | | | | 23 | 130 | 0 | 2 | | USGS |
| Sept 0945 | 145 | 71 | 9.0 | 101 | 287 | 6.9 | 27 / 1.347 | 14 / 1.125 | 14 / 0.609 | 1.4 / 0.036 | 0 / 0.000 | 165 / 2.704 | 8.1 / 0.169 | 9.1 / 0.257 | 0.6 / 0.010 | 0.0 / 0.000 | 2.1 | 17 | Cu 0.01; $PO_4$ 0.05; (a) | 174[b] | 36 | 124 | 0 | 0.4 | | USGS |
| Oct 18 1300 | 210 | 55 | 10.2 | 108 | | 7.8 | Sample missing | | | | | | | | | | | | | | | | | | | |
| Nov 4 1330 | 369 | 58 | 10.8 | 105 | 262 | 7.6 | 26 / 1.297 | 12 / 1.015 | 10 / 0.435 | 1.6 / 0.041 | 0 / 0.000 | 144 / 2.360 | | 6.0 / 0.169 | | | 0.83 | | | | 16 | 116 | 0 | 20 | | USGS |
| Dec 3 1100 | 210 | 49 | 10.8 | 94 | 277 | 7.8 | 29 / 1.45 | 13 / 1.07 | 10 / 0.44 | 1.1 / 0.03 | 0 / 0.000 | 161 / 2.64 | | 6.5 / 0.18 | | | 0.55 | | | | 15 | 126 | 0 | 0.8 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH), or State Division of Water Resources (DWR), as indicated.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River near Hopland** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 3 1620 | 870 | 46 | 11.2 | 94 | 169 | 7.2 | 18 / 0.898 | 7.6 / 0.622 | 6.4 / 0.278 | 1.0 / 0.026 | 0 / 0.000 | 88 / 1.442 | | 4.5 / 0.127 | | | 0.34 | | | | 15 | 76 | 4 | 20 | | USGS |
| Feb 7 1300 | 580 | 50 | 11.7 | 103 | 191 | 7.3 | 20 / 0.998 | 8.3 / 0.682 | 7.8 / 0.339 | 0.7 / 0.018 | 0 / 0.000 | 100 / 1.639 | | 5.2 / 0.147 | | | 0.25 | | | | 17 | 84 | 2 | 3 | | USGS |
| Mar 1 1415 | 712 | 46 | 13.4 | 112 | 179 | 7.0 | 16 / 0.798 | 10 / 0.826 | 7.6 / 0.330 | 1.1 / 0.028 | 0 / 0.000 | 98 / 1.606 | | 4.8 / 0.135 | | | 0.23 | | | | 17 | 81 | 1 | 4 | | USGS |
| Apr 4 1245 | 171 | 56 | 11.0 | 102 | 226 | 7.9 | 23 / 1.148 | 9.9 / 0.812 | 9.6 / 0.417 | 1.3 / 0.033 | 0 / 0.000 | 125 / 2.049 | | 6.0 / 0.169 | | | 0.39 | | | | 17 | 93 | 0 | 10 | | USGS |
| May 2 1200 | 652 | 60 | 9.8 | 98 | 191 | 6.8 | 22 / 1.098 | 7.3 / 0.602 | 7.7 / 0.335 | 0.8 / 0.020 | 0 / 0.000 | 102 / 1.668 | 10 / 0.208 | 5.5 / 0.155 | 0.9 / 0.015 | 0.0 / 0.000 | 0.28 | 13 | Fe 0.06; Al 0.01; (a) $PO_4$ 0.05 | 118[b] | 16 | 85 | 1 | 4 | | USGS |
| Jun 23 1230 | 224 | 76 | 7.8 | 87 | 189 | 7.2 | 19 / 0.948 | 7.0 / 0.572 | 7.3 / 0.317 | 0.8 / 0.020 | 0 / 0.000 | 104 / 1.704 | | 4.5 / 0.127 | | | 0.25 | | Al 0.05; (a) | | 17 | 76 | 0 | 0.8 | | USGS |
| Jul 11 1315 | 186 | 75 | 10.2 | 120 | 182 | 7.6 | 19 / 0.948 | 7.9 / 0.652 | 7.8 / 0.339 | 0.9 / 0.023 | 9 / 0.300 | 82 / 1.344 | | 4.2 / 0.118 | | | 0.23 | | | | 17 | 80 | 0 | 0.8 | | USGS |
| Aug 1 1215 | 195 | 77 | 11.0 | 131 | 188 | 7.7 | 20 / 0.998 | 7.2 / 0.602 | 6.7 / 0.291 | 1.1 / 0.028 | 0 / 0.000 | 104 / 1.704 | | 6.0 / 0.169 | | | 0.25 | | | | 15 | 80 | 0 | 3 | | USGS |
| Sep 12 1620 | 177 | 79 | 10.6 | 130 | 178 | 7.6 | 21 / 1.048 | 6.1 / 0.500 | 6.9 / 0.300 | 0.5 / 0.013 | 13 / 0.433 | 71 / 1.164 | 9.0 / 0.187 | 4.1 / 0.116 | 0.6 / 0.010 | 0.2 / 0.011 | 0.40 | 9.3 | Fe 0.03; Cu 0.01; (a) | 106[b] | 16 | 77 | 0 | 4.0 | | USGS |
| Oct 3 1600 | 204 | 64 | 11.2 | 117 | 196 | 7.9 | 22 / 1.098 | 7.5 / 0.618 | 7.3 / 0.318 | 0.8 / 0.020 | 0 / 0.000 | 108 / 1.770 | | 2.7 / 0.076 | | | 0.46 | | | | 15 | 86 | 0 | 2 | | USGS |
| Nov 14 1415 | 245 | 51 | 11.4 | 102 | 199 | 6.8 | 24 / 1.198 | 6.7 / 0.554 | 7.8 / 0.339 | 1.0 / 0.026 | 0 / 0.000 | 111 / 1.819 | | 4.2 / 0.118 | | | 0.57 | | | | 16 | 88 | 0 | 2 | | USGS |
| Dec 5 1500 | 249 | 48 | 9.0 | 77 | 226 | 6.9 | 25 / 1.248 | 8.2 / 0.672 | 11 / 0.478 | 1.0 / 0.026 | 0 / 0.000 | 116 / 1.901 | | 7.7 / 0.217 | | | 0.76 | | | | 20 | 96 | 1 | 1 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 18 minimum .045 – maximum 1300 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River near Hopland** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1320 | 6,680 | 52 | 10.0 | 91 | 122 | 6.9 | 11 / 0.549 | 6.2 / 0.511 | 4.6 / 0.200 | 1.4 / 0.036 | 0 / 0.000 | 64 / 1.049 | | 1.2 / 0.034 | | | 0.05 | | | | 15 | 53 | 1 | 600 | | USGS |
| Feb 17 1205 | 650 | 45 | 11.0 | 91 | 191 | 6.9 | 20 / 0.998 | 8.2 / 0.674 | 6.8 / 0.296 | 0.9 / 0.023 | 0 / 0.000 | 104 / 1.705 | | 2.9 / 0.082 | | | 0.27 | | | | 15 | 84 | 0 | | | USGS |
| Mar 5 1300 | 2,330 | 50 | 11.0 | 97 | 165 | 7.2 | 17 / 0.848 | 7.7 / 0.632 | 5.5 / 0.239 | 1.1 / 0.028 | 0 / 0.000 | 89 / 1.459 | | 3.5 / 0.099 | | | 0.09 | | | | 14 | 74 | 1 | 75 | | USGS |
| Apr 2 1115 | 575 | | 10.6 | | 184 | 7.7 | 18 / 0.898 | 8.8 / 0.722 | 6.9 / 0.300 | 0.9 / 0.023 | 0 / 0.000 | 114 / 1.868 | | 2.0 / 0.056 | | | 0.77 | | | | 15 | 81 | 0 | 25 | | USGS |
| May 7 1340 | 428 | 62 | 9.8 | 100 | 193 | 7.7* | 24 / 1.198 | 5.5 / 0.450 | 7.2 / 0.313 | 1.0 / 0.026 | 0 / 0.000 | 105 / 1.721 | 9.6 / 0.200 | 2.6 / 0.073 | 0.9 / 0.015 | 0.3 / 0.016 | 0.25 | 13 | Fe 0.02; Cu 0.02; Zn 0.01; $PO_4$ 0.10 (a) | 116[b] | 16 | 82 | 0 | 15 | | USGS |
| June 11 1530 | 255 | 75 | 9.3 | 109 | 208 | 6.9 | 23 / 1.148 | 7.7 / 0.632 | 8.7 / 0.378 | 1.2 / 0.031 | 0 / 0.000 | 112 / 1.836 | | 5.8 / 0.164 | | | 0.20 | | | | 17 | 89 | 0 | 4 | | USGS |
| July 2 1300 | 260 | 75 | 10.4 | 121 | 182 | 8.2 | 20 / 0.998 | 8.3 / 0.682 | 6.8 / 0.296 | 1.1 / 0.028 | 0 / 0.000 | 106 / 1.737 | | 3.5 / 0.099 | | | 0.39 | | | | 15 | 84 | 0 | 1 | | USGS |
| Aug 6 1350 | 181 | 77 | 12.6 | 150 | 172 | 7.4 | 19 / 0.948 | 7.7 / 0.632 | 6.3 / 0.274 | 1.0 / 0.026 | 0 / 0.000 | 100 / 1.639 | | 2.5 / 0.070 | | | 0.18 | | | | 15 | 79 | 0 | 3 | | USGS |
| Sept 11 1110 | 223 | 70 | 9.3 | 104 | 182 | 6.8 | 20 / 0.998 | 7.3 / 0.602 | 6.1 / 0.265 | 0.9 / 0.023 | 0 / 0.000 | 104 / 1.705 | 4.8 / 0.100 | 3.5 / 0.099 | 0.6 / 0.010 | 0.0 / 0.000 | 0.35 | 13 | Al 0.01; Cu 0.01; $PO_4$ 0.10; (a) | 108[b] | 14 | 80 | 0 | 1.0 | | USGS |
| Oct 5 1810 | 169 | 70 | 9.2 | 102 | 208 | 7.9 | 22 / 1.098 | 8.0 / 0.662 | 9.4 / 0.409 | 0.9 / 0.023 | 0 / 0.000 | 110 / 1.803 | | 4.4 / 0.124 | | | 0.59 | | | | 19 | 88 | 0 | 10 | | USGS |
| Nov 4 1145 | 331 | 77 | 11.0 | 131 | 219 | 7.5 | 22 / 1.098 | 9.3 / 0.762 | 9.2 / 0.400 | 0.9 / 0.023 | 0 / 0.000 | 118 / 1.934 | | 6.6 / 0.186 | | | 0.62 | | | | 18 | 93 | 0 | 9 | | USGS |
| Dec 3 1320 | 331 | 49 | 13.6 | 119 | 227 | 8.0 | 26 / 1.30 | 8.4 / 0.69 | 8.9 / 0.39 | 0.8 / 0.02 | 0 / 0.000 | 128 / 2.10 | | 6.5 / 0.18 | | | 0.30 | | | | 16 | 100 | 0 | 5 | median 23; minimum .62; maximum 2400 | USGS |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e USGS, Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH).

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Russian River near Ukiah** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 7 1335 | | 53 | 12.2 | 112 | 234 | 8.2 | 28 / 1.397 | 8.8 / 0.723 | 8.9 / 0.387 | 1.0 / 0.026 | 0 / 0.000 | 126 / 2.065 | | 4.8 / 0.135 | | | 0.20 | | | | 15 | 106 | 3 | 110 | | USGS |
| Mar 6 1400 | | 54 | 12.5 | 116 | 241 | 8.9 | 26 / 1.297 | 8.8 / 0.887 | 9.6 / 0.417 | 1.3 / 0.033 | 0 / 0.000 | 128 / 2.098 | | 6.6 / 0.186 | | | 0.16 | | | | 16 | 105 | 0 | 2 | | USGS |
| Apr 4 1330 | | 58 | 10.6 | 103 | 222 | 8.1 | 23 / 1.148 | 3.9 / 0.732 | 9.8 / 0.426 | 1.1 / 0.028 | 0 / 0.000 | 121 / 1.983 | | 6.0 / 0.169 | | | 0.52 | | | | 18 | 94 | 0 | 4 | | USGS |
| May 2 1305 | | 64 | 9.6 | 100 | 240 | 7.4 | 31 / 1.547 | 8.2 / 0.673 | 8.0 / 0.348 | 1.1 / 0.028 | 0 / 0.000 | 128 / 2.262 | 10 / 0.208 | 5.8 / 0.164 | 0.1 / 0.002 | 0.1 / 0.005 | 0.14 | 17 | Mn 0.005; (a) PO4 0.10 | 149[b] | 13 | 111 | 0 | 10 | | USGS |
| Jun 23 1315 | | 69 | 9.4 | 103 | 177 | 7.3 | 27 / 1.347 | 2.2 / 0.183 | 6.5 / 0.283 | 0.8 / 0.020 | 0 / 0.000 | 98 / 1.606 | | 0.6 / 0.017 | | | 0.30 | | Al 0.05 (a) | | 15 | 76 | 0 | 8 | | USGS |
| Jul 11 1400 | | 76 | 8.7 | 102 | 179 | 7.3 | 21 / 1.048 | 6.5 / 0.532 | 6.7 / 0.291 | 1.1 / 0.028 | 0 / 0.000 | 101 / 1.655 | | 3.8 / 0.107 | | | 0.35 | | | | 15 | 79 | 0 | 20 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept 12 1600 | | 76 | 8.8 | 104 | 206 | 7.7 | 22 / 1.098 | 8.2 / 0.674 | 8.7 / 0.378 | 1.0 / 0.026 | 0 / 0.000 | 113 / 1.852 | 8.2 / 0.171 | 5.2 / 0.147 | 0.2 / 0.003 | 0.2 / 0.011 | 0.38 | 10 | Fe 0.06; Al 0.01; (a) | 120[b] | 17 | 89 | 0 | 110 | | USGS |
| Oct 3 1635 | | 66 | 9.0 | 96 | 187 | 7.3 | 21 / 1.048 | 6.8 / 0.560 | 6.9 / 0.300 | 0.7 / 0.018 | 0 / 0.000 | 103 / 1.688 | | 2.7 / 0.076 | | | 0.42 | | | | 16 | 80 | 0 | 6 | | USGS |
| Nov 14 1445 | | 50 | 11.0 | 97 | 197 | 6.9 | 22 / 1.098 | 7.4 / 0.610 | 8.0 / 0.348 | 1.1 / 0.028 | 0 / 0.000 | 105 / 1.721 | | 4.7 / 0.133 | | | 0.45 | | | | 17 | 85 | 0 | 10 | | USGS |
| Dec 5 1600 | | 48 | 9.5 | 82 | 203 | 6.9 | 20 / 0.998 | 8.3 / 0.686 | 9.4 / 0.409 | 1.2 / 0.031 | 0 / 0.000 | 103 / 1.688 | | 6.3 / 0.178 | | | 0.67 | | | | 19 | 84 | 0 | 35 | | USGS |
| 1955 Flows not rated | | | | | | | | | | | | | | | | | | | | | | | | | median 62 minimum .12 maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Russian River near Ukiah | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1400 | | 52 | 10.0 | 91 | 209 | 7.6 | 28 / 1.397 | 6.1 / 0.503 | 4.5 / 0.196 | 1.4 / 0.036 | 0 / 0.000 | 119 / 1.950 | | 3.5 / 0.099 | | | 0.08 | | | | 9 | 95 | 0 | 250 | | USGS |
| Feb 17 1130 | | 45 | 11.6 | 96 | 197 | 7.4 | 23 / 1.148 | 7.3 / 0.604 | 6.6 / 0.287 | 0.9 / 0.023 | 0 / 0.000 | 110 / 1.803 | | 2.6 / 0.073 | | | 0.25 | | | | 14 | 88 | 0 | 30 | | USGS |
| Mar 5 1350 | | 50 | 11.2 | 99 | 202 | 7.1 | 24 / 1.198 | 8.0 / 0.662 | 6.7 / 0.291 | 1.1 / 0.028 | 0 / 0.000 | 113 / 1.852 | | 4.5 / 0.127 | | | 0.22 | | | | 13 | 93 | 0 | 40 | | USGS |
| Apr 2 1150 | | 56 | 11.6 | 110 | 202 | 7.5 | 22 / 1.098 | 8.8 / 0.722 | 7.2 / 0.313 | 0.9 / 0.023 | 0 / 0.000 | 121 / 1.983 | | 3.0 / 0.085 | | | 1.3 | | | | 15 | 91 | 0 | 15 | | USGS |
| May 7 1415 | | 63 | 9.6 | 99 | 209 | 7.6* | 24 / 1.198 | 8.7 / 0.718 | 7.5 / 0.326 | 1.3 / 0.033 | 0 / 0.000 | 118 / 1.934 | 11 / 0.229 | 2.8 / 0.079 | 0.9 / 0.015 | 0.1 / 0.005 | 0.21 | 13 | Al 0.05; Cu 0.01; Zn 0.01; $PO_4$ 0.23 (a) | 128[b] | 14 | 96 | 0 | 80 | | USGS |
| June 11 1600 | | 75 | 7.8 | 91 | 181 | 7.0 | 20 / 0.998 | 7.0 / 0.574 | 7.6 / 0.331 | 1.1 / 0.028 | 0 / 0.000 | 101 / 1.655 | | 2.9 / 0.082 | | | 0.29 | | | | 17 | 79 | 0 | 10 | | USGS |
| July 2 1420 | | 75 | 8.0 | 94 | 170 | 7.8 | 18 / 0.898 | 7.1 / 0.582 | 8.0 / 0.348 | 1.0 / 0.026 | 0 / 0.000 | 100 / 1.639 | | 2.5 / 0.070 | | | 0.34 | | | | 19 | 74 | 0 | 3 | | USGS |
| Aug 6 1500 | | 76 | 9.4 | 111 | 160 | 7.1 | 18 / 0.898 | 7.3 / 0.602 | 6.1 / 0.265 | 1.0 / 0.026 | 0 / 0.000 | 95 / 1.557 | | 2.5 / 0.070 | | | 0.19 | | | | 15 | 75 | 0 | 3 | | USGS |
| Sept 11 1200 | | 71 | 10.0 | 112 | 178 | 6.6 | 20 / 0.998 | 6.6 / 0.546 | 7.2 / 0.313 | 0.9 / 0.023 | 0 / 0.000 | 100 / 1.639 | 5.8 / 0.121 | 4.3 / 0.121 | 0.5 / 0.008 | 0.0 / 0.000 | 0.26 | 10 | Fe 0.01; Al 0.02; Cu 0.01; Zn 0.01; $PO_4$ 0.15; (a) | 105[b] | 17 | 77 | 0 | 5 | | USGS |
| Oct 5 1700 | | 71 | 9.4 | 106 | 179 | 7.9 | 22 / 1.098 | 6.1 / 0.502 | 5.9 / 0.257 | 0.8 / 0.020 | 0 / 0.000 | 106 / 1.737 | | 3.6 / 0.102 | | | 0.31 | | | | 14 | 80 | 0 | 2 | | USGS |
| Nov 4 1115 | | 55 | 11.2 | 105 | 215 | 7.5 | 23 / 1.148 | 8.1 / 0.664 | 9.5 / 0.413 | 0.8 / 0.020 | 0 / 0.000 | 115 / 1.885 | | 7.3 / 0.206 | | | 0.68 | | | | 18 | 91 | 0 | 9 | | USGS |
| Dec 3 1410 | | 49 | 11.6 | 101 | 219 | 7.6 | 26 / 1.30 | 7.5 / 0.62 | 8.6 / 0.37 | 1.0 / 0.03 | 0 / 0.000 | 126 / 2.07 | | 5.5 / 0.16 | | | 0.57 | | | | 16 | 96 | 0 | 15 | median 23 | USGS |
| 1956 Flows not rated | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |
| *Lab pH | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Smith River near Crescent City | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 6 1315 | 4,520 | 46 | 13.0 | 108 | 86.6 | 7.6 | 5.3 / 0.264 | 7.1 / 0.586 | 1.6 / 0.070 | 0.2 / 0.005 | 0 / 0.000 | 51 / 0.836 | | 2.5 / 0.071 | | | 0.06 | | | | 8 | 42 | 0 | 0.9 | | USGS |
| Feb 10 0905 | 4,250 | 41 | 13.2 | 104 | 92.9 | 7.3 | 5.3 / 0.264 | 8.2 / 0.676 | 1.8 / 0.078 | 0.1 / 0.003 | 0 / 0.000 | 55 / 0.901 | | 2.8 / 0.079 | | | 0.00 | | | | 8 | 47 | 2 | 0.8 | | USGS |
| Mar 13 1150 | 5,130 | 46 | 12.8 | 107 | 87.2 | 7.0 | 3.1 / 0.155 | 8.0 / 0.657 | 1.9 / 0.083 | 0.5 / 0.013 | 0 / 0.000 | 51 / 0.836 | | 2.3 / 0.065 | | | 0.00 | | | | 9 | 41 | 0 | 1 | | USGS |
| Apr 6 1500 | 4,030 | 53 | 11.0 | 100 | | 7.3 | | | | | | | | | | | | | | | | | | | | |
| May 12 1000 | 3,570 | 55 | 10.8 | 102 | 74.8 | 6.8 | 2.6 / 0.130 | 7.2 / 0.598 | 1.7 / 0.074 | 0.3 / 0.008 | 0 / 0.000 | 48 / 0.787 | 1.5 / 0.031 | 0.4 / 0.011 | 0.0 / 0.000 | 0.1 / 0.005 | 0.01 | 27 | Fe 0.04; Al 0.02; (a) $PO_4$ 0.05 | 65[b] | 9 | 36 | 0 | 2 | | USGS |
| Jun 7 0930 | 1,400 | 60 | 10.4 | 104 | 88.3 | 7.7 | 11 / 0.549 | 3.4 / 0.277 | 2.0 / 0.087 | 0.2 / 0.005 | 0 / 0.000 | 51 / 0.836 | | 2.2 / 0.062 | | | 0.00 | | Al 0.03 (a) | | 9 | 41 | 0 | 0.0 | | USGS |
| Jul 13 1610 | 461 | 70 | 10.4 | 116 | 121 | 7.4 | 6.8 / 0.339 | 10 / 0.821 | 2.5 / 0.109 | 0.3 / 0.008 | 0 / 0.000 | 71 / 1.164 | | 2.5 / 0.071 | | | 0.00 | | | | 9 | 58 | 0 | 0.6 | | USGS |
| Aug 2 1300 | 356 | 70 | 10.4 | 116 | 128 | 7.2 | 6.8 / 0.339 | 11 / 0.901 | 2.4 / 0.104 | 0.4 / 0.010 | 0 / 0.000 | 73 / 1.278 | | 3.0 / 0.085 | | | 0.00 | | | | 8 | 62 | 0 | 0.3 | | USGS |
| Sep 15 1010 | 389 | 59 | 10.6 | 102 | 134 | | 8.1 / 0.404 | 10 / 0.828 | 2.7 / 0.117 | 0.4 / 0.010 | 0 / 0.000 | 76 / 1.241 | 3.6 / 0.054 | 2.9 / 0.082 | 0.1 / 0.002 | 0.1 / 0.005 | 0.03 | 14 | Fe 0.02; Al 0.08; Cu 0.01; (a) | 78[b] | 9 | 62 | 0 | 2.0 | | USGS |
| Oct 6 0845 | 310 | 57 | 10.4 | 100 | 140 | 7.2 | 7.2 / 0.359 | 12 / 0.969 | 2.7 / 0.117 | 0.3 / 0.008 | 0 / 0.000 | 80 / 1.311 | | 2.3 / 0.065 | | | 0.02 | | | | 8 | 66 | 0 | 4 | | USGS |
| Nov 16 1600 | 845 | 48 | 12.8 | 110 | 123 | 6.8 | 5.6 / 0.279 | 12 / 1.001 | 2.3 / 0.100 | 0.3 / 0.008 | 0 / 0.000 | 71 / 1.164 | | 2.0 / 0.085 | | | 0.00 | | | | 7 | 64 | 6 | 4 | | USGS |
| Dec 8 0900 | 8,420 | 50 | 11.0 | 97 | 80.9 | 6.8 | 4.4 / 0.220 | 6.8 / 0.560 | 1.7 / 0.074 | 0.3 / 0.008 | 0 / 0.000 | 47 / 0.770 | | 1.8 / 0.051 | | | 0.00 | | | | 9 | 39 | 0 | 4 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 0.23 | |
| * Sample broken | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.045– | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 13 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH) Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Smith River near Crescent City | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1547 | 18,000 | 49 | 13.0 | 113 | 70.0 | 6.7 | 4.2 / 0.210 | 5.4 / 0.440 | 1.6 / 0.070 | 0.1 / 0.003 | 0 / 0.000 | 40 / 0.656 | | 2.0 / 0.056 | | | 0.00 | | | | 10 | 32 | 0 | 50 | | USGS |
| Feb 10 0900 | 2,480 | 41 | 12.2 | 95 | 102 | 6.8 | 5.0 / 0.250 | 7.1 / 0.586 | 4.9 / 0.213 | 0.2 / 0.005 | 0 / 0.000 | 52 / 0.852 | | 0.8 / 0.023 | | | 0.01 | | | | 20 | 42 | 0 | 8 | | USGS |
| Mar 7 1705 | 5,790 | 47 | 12.5 | 106 | 75.3 | 7.1 | 5.7 / 0.284 | 4.8 / 0.396 | 2.7 / 0.117 | 0.3 / 0.008 | 0 / 0.000 | 47 / 0.770 | | 0.4 / 0.011 | | | 0.00 | | | | 15 | 34 | 0 | 9 | | USGS |
| Apr 3 1250 | 4,900 | 50 | 12.5 | 110 | 78.1 | 6.6 | 4.4 / 0.220 | 6.8 / 0.560 | 1.7 / 0.074 | 0.3 / 0.008 | 0 / 0.000 | 51 / 0.836 | | 0.0 / 0.000 | | | 0.00 | | | | 9 | 39 | 0 | 3 | | USGS |
| May 10 1500 | 2,700 | 52 | 11.8 | 107 | 77.6 | 7.8* | 6.4 / 0.319 | 4.9 / 0.405 | 1.4 / 0.061 | 0.3 / 0.008 | 0 / 0.000 | 45 / 0.738 | 1.0 / 0.021 | 1.0 / 0.028 | 0.2 / 0.003 | 0.1 / 0.005 | 0.00 | 13 | Fe 0.01; Cu 0.01; Zn 0.01; $PO_4$ 0.00; (a) | 50[b] | 8 | 36 | 0 | 2 | | USGS |
| June 14 1500 | 1,080 | 59 | 10.2 | 100 | 95.6 | 6.9 | 5.6 / 0.279 | 7.6 / 0.621 | 2.8 / 0.122 | 0.4 / 0.010 | 0 / 0.000 | 57 / 0.934 | | 1.4 / 0.039 | | | 0.00 | | | | 12 | 45 | 0 | 0.8 | | USGS |
| July 4 1445 | 572 | 64 | 9.7 | 101 | 111 | 7.5 | 7.2 / 0.359 | 9.0 / 0.741 | 2.1 / 0.091 | 0.5 / 0.013 | 0 / 0.000 | 68 / 1.115 | | 0.5 / 0.014 | | | 0.00 | | | | 8 | 55 | 0 | 0.5 | | USGS |
| Aug 9 1500 | 321 | 78 | 10.0 | 121 | 130 | 6.8 | 8.0 / 0.399 | 11 / 0.901 | 2.5 / 0.109 | 0.2 / 0.005 | 0 / 0.000 | 80 / 1.311 | | 2.5 / 0.070 | | | 0.01 | | | | 8 | 65 | 0 | 1 | | USGS |
| Sept 13 1530 | 262 | 65 | 12.8 | 135 | 138 | 7.4 | 8.4 / 0.419 | 12 / 1.001 | 2.5 / 0.109 | 0.4 / 0.010 | 0 / 0.000 | 82 / 1.344 | 3.8 / 0.079 | 3.1 / 0.087 | 0.3 / 0.005 | 0.0 / 0.000 | 0.04 | 14 | Al 0.02; Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 85[b] | 7 | 71 | 4 | 0.4 | | USGS |
| Oct 2 1715 | 225 | 66 | 10.3 | 110 | 141 | 7.6 | 8.1 / 0.404 | 12 / 1.004 | 2.7 / 0.117 | 0.3 / 0.008 | 0 / 0.000 | 86 / 1.410 | | 3.4 / 0.096 | | | 0.00 | | | | 8 | 70 | 0 | 0.3 | | USGS |
| Nov 2 1315 | 8,810 | 46 | 12.8 | 107 | 101 | 7.4 | 7.2 / 0.359 | 7.8 / 0.641 | 2.3 / 0.100 | 0.4 / 0.010 | 0 / 0.000 | 63 / 1.033 | | 2.6 / 0.073 | | | 0.00 | | | | 9 | 50 | 0 | 6 | | USGS |
| Dec 6 1400 | 1,240 | 39 | 13.6 | 103 | 98.9 | 7.5 | 5.4 / 0.27 | 8.4 / 0.69 | 1.8 / 0.08 | 0.2 / 0.01 | 0 / 0.00 | 60 / 0.98 | | 2.9 / 0.08 | | | 0.00 | | | | 8 | 48 | 0 | 0.5 | median .56 minimum .045 - maximum 230 | USGS |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Trinity River near Hoopa** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 5 1030 | 5,670 | 42 | 13.2 | 104 | 148 | 7.1 | 18 / 0.898 | 6.6 / 0.542 | 2.8 / 0.122 | 0.5 / 0.013 | 0 / 0.000 | 83 / 1.360 | | 4.2 / 0.118 | | | 0.09 | | | | 8 | 72 | 4 | 7 | | USGS |
| Feb 8 1600 | 4,120 | 46 | 12.0 | 100 | 170 | 7.8 | 20 / 0.998 | 8.3 / 0.682 | 3.9 / 0.170 | 0.4 / 0.010 | 0 / 0.000 | 96 / 1.573 | | 3.5 / 0.099 | | | 0.00 | | | | 9 | 84 | 5 | 2 | | USGS |
| Mar 13 0945 | 4,280 | 48 | 12.4 | 103 | 155 | 7.5 | 17 / 0.848 | 7.7 / 0.632 | 3.5 / 0.152 | 0.5 / 0.013 | 0 / 0.000 | 90 / 1.475 | | 3.5 / 0.099 | | | 0.02 | | | | 9 | 74 | 0 | 4 | | USGS |
| Apr 5 1500 | 4,140 | 53 | 11.2 | 101 | 141 | 8.1 | 15 / 0.749 | 6.9 / 0.571 | 3.2 / 0.139 | 0.5 / 0.013 | 0 / 0.000 | 81 / 1.327 | | 3.2 / 0.09 | | | 0.04 | | | | 9 | 66 | 0 | 9 | | USGS |
| May 9 1615 | 11,000 | 62 | 7.4 | 75 | 97.8 | 6.7 | 7.0 / 0.349 | 8.3 / 0.683 | 2.5 / 0.109 | 0.5 / 0.013 | 0 / 0.000 | 64 / 1.049 | 3.5 / 0.073 | 0.4 / 0.011 | 0.3 / 0.005 | 0.2 / 0.011 | 0.04 | 21 | Fe 0.1; Al 0.1; (a) $PO_4$ 0.10 | 76[b] | 9 | 52 | 0 | 30 | | USGS |
| Jun 7 1600 | 4,900 | 74 | 9.0 | 104 | 178 | 7.9 | 24 / 1.198 | 3.7 / 0.302 | 7.9 / 0.344 | 0.9 / 0.023 | 0 / 0.000 | 97 / 1.590 | | 5.2 / 0.147 | | | 0.07 | | Al 0.04 | | 18 | 75 | 0 | 0.3 | | USGS |
| Jul 12 1630 | 1,150 | 76 | 9.6 | 113 | 166 | 7.6 | 18 / 0.898 | 7.8 / 0.642 | 4.1 / 0.178 | 0.5 / 0.013 | 0 / 0.000 | 91 / 1.491 | | 5.0 / 0.141 | | | 0.02 | | | | 10 | 77 | 2 | 2 | | USGS |
| Aug 2 1040 | 609 | 74 | 9.0 | 105 | 190 | 8.2 | 21 / 1.048 | 8.7 / 0.712 | 4.8 / 0.209 | 0.8 / 0.020 | 0 / 0.000 | 108 / 1.770 | | 6.0 / 0.169 | | | 0.04 | | | | 11 | 88 | 0 | 0.3 | | USGS |
| Sep 13 1615 | 338 | 66 | 9.2 | 98 | 226 | | 26 / 1.297 | 9.1 / 0.747 | 5.7 / 0.248 | 0.6 / 0.015 | 0 / 0.000 | 117 / 1.917 | 10 / 0.208 | 9.4 / 0.265 | 0.1 / 0.002 | 0.1 / 0.005 | 0.06 | 17 | Fe 0.02; Al 0.02; Cu 0.01; (a) | 136[b] | 11 | 102 | 6 | 1.0 | | USGS |
| Oct 5 1300 | 383 | 62 | 7.3 | 75 | 228 | 10.0 | 24 / 1.198 | 11 / 0.870 | 6.2 / 0.270 | 0.8 / 0.020 | 0 / 0.000 | 116 / 1.901 | | 8.8 / 0.248 | | | 0.05 | | | | 11 | 103 | 8 | 2 | | USGS |
| Nov 15 1615 | 581 | 49 | 10.0 | 104 | 228 | 6.8 | 25 / 1.248 | 10 / 0.836 | 6.8 / 0.296 | 0.6 / 0.015 | 0 / 0.000 | 112 / 1.836 | | 10 / 0.282 | | | 0.08 | | | | 12 | 104 | 12 | 5 | | USGS |
| Dec 7 1630 | 9,580 | 46 | 11.0 | 92 | 128 | 7.0 | 16 / 0.798 | 4.6 / 0.382 | 39 / 0.170 | 1.6 / 0.041 | 0 / 0.000 | 67 / 1.098 | | 2.7 / 0.076 | | | 0.02 | | | | 12 | 59 | 4 | 75 | median 2.3 minimum 0.045 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Trinity River near Hoopa** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 14 1710 | 7,130 | 45 | 9.6 | 79 | 184 | 6.9 | 19 / 0.948 | 8.6 / 0.708 | 5.5 / 0.239 | 1.0 / 0.026 | 0 / 0.000 | 101 / 1.655 | | 2.5 / 0.070 | | | 0.05 | | | | 12 | 83 | 0 | 45 | | USGS |
| Mar 8 1500 | 10,400 | 48 | 11.4 | 98 | 143 | 6.9 | 20 / 0.998 | 4.5 / 0.370 | 2.9 / 0.126 | 0.6 / 0.015 | 0 / 0.000 | 89 / 1.459 | | 0.0 / 0.000 | | | 0.04 | | | | 8 | 68 | 0 | 20 | | USGS |
| Apr 3 1015 | 9,160 | 50 | 11.8 | 104 | 131 | 8.1 | 14 / 0.699 | 6.8 / 0.561 | 28 / 0.122 | 0.6 / 0.015 | 0 / 0.000 | 82 / 1.344 | | 1.5 / 0.042 | | | 0.03 | | | | 9 | 63 | 0 | 20 | | USGS |
| May 9 1600 | 9,780 | 56 | 11.0 | 104 | 106 | 7.9* | 13 / 0.649 | 4.4 / 0.353 | 2.4 / 0.104 | 0.5 / 0.013 | 0 / 0.000 | 67 / 1.098 | 0.6 / 0.012 | 0.1 / 0.003 | 0.1 / 0.002 | 0.3 / 0.016 | 0.04 | 14 | Fe 0.04; Al 0.05; Cu 0.01; (a) $PO_4$ 0.05 | 68[b] | 9 | 51 | 0 | 30 | | USGS |
| June 13 1400 | 6,110 | 66 | 9.6 | 102 | 97.9 | 6.9 | 9.5 / 0.474 | 5.2 / 0.426 | 2.4 / 0.104 | 0.6 / 0.015 | 0 / 0.000 | 59 / 0.967 | | 1.0 / 0.028 | | | 0.02 | | | | 10 | 45 | 0 | 15 | | USGS |
| July 5 1300 | 2,780 | 70 | 9.0 | 100 | 124 | 7.8 | 14 / 0.699 | 5.8 / 0.481 | 2.9 / 0.126 | 0.6 / 0.015 | 0 / 0.000 | 73 / 1.196 | | 2.5 / 0.070 | | | 0.12 | | | | 10 | 59 | 0 | 2 | | USGS |
| Aug 8 1400 | 1,030 | 78 | 8.2 | 99 | 184 | 6.9 | 20 / 0.998 | 9.0 / 0.742 | 5.5 / 0.239 | 1.0 / 0.026 | 0 / 0.000 | 102 / 1.672 | | 5.5 / 0.155 | | | 0.06 | | | | 12 | 87 | 3 | 1 | | USGS |
| Sept 12 1415 | 562 | 71 | 11.4 | 128 | 218 | 7.4 | 25 / 1.248 | 9.1 / 0.752 | 6.1 / 0.265 | 1.0 / 0.026 | 0 / 0.000 | 119 / 1.950 | 6.7 / 0.139 | 7.6 / 0.214 | 0.2 / 0.003 | 0.0 / 0.000 | 0.12 | 13 | Zn 0.05; $PO_4$ 0.05 (a) | 128[b] | 12 | 100 | 2 | 0.4 | | USGS |
| Oct 1 1720 | 498 | 69 | 10.3 | 113 | 227 | 7.5 | 26 / 1.297 | 9.7 / 0.799 | 6.6 / 0.287 | 0.8 / 0.020 | 0 / 0.000 | 122 / 2.000 | | 9.6 / 0.271 | | | 0.09 | | | | 12 | 105 | 5 | 0.3 | | USGS |
| Nov 1 1420 | 2,880 | 48 | 12.8 | 110 | 163 | 7.2 | 18 / 0.898 | 7.0 / 0.574 | 4.2 / 0.183 | 0.6 / 0.015 | 0 / 0.000 | 84 / 1.377 | | 5.0 / 0.141 | | | 0.05 | | | | 11 | 74 | 5 | 40 | | USGS |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median .62 minimum .045 - maximum 62 | |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Trinity River at Lewiston** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 1030 | 618 | 38 | 13.6 | 102 | 119 | 7.4 | 7.6 / 0.379 | 8.8 / 0.721 | 3.6 / 0.157 | 0.3 / 0.008 | 0 / 0.000 | 68 / 1.114 | | 4.0 / 0.113 | | | 0.01 | | | | 12 | 55 | 0 | 2 | | USGS |
| Feb 9 1500 | 798 | 44 | 11.2 | 91 | 112 | 7.7 | 5.3 / 0.264 | 11 / 0.896 | 3.7 / 0.161 | 0.3 / 0.008 | 0 / 0.000 | 72 / 1.180 | | 3.5 / 0.099 | | | 0.00 | | | | 12 | 58 | 0 | 3 | | USGS |
| Mar 9 1500 | 856 | 47 | 11.0 | 93 | 115 | 7.5 | 5.5 / 0.274 | 10 / 0.854 | 3.6 / 0.157 | 0.5 / 0.013 | 0 / 0.000 | 71 / 1.164 | | 4.9 / 0.138 | | | 0.00 | | | | 12 | 56 | 0 | 35 | | USGS |
| Apr 14 1000 | 1,590 | 48 | 11.1 | 98 | 99.9 | 7.6 | 5.3 / 0.264 | 8.2 / 0.676 | 2.4 / 0.104 | 0.4 / 0.010 | 0 / 0.000 | 61 / 1.000 | | 2.0 / 0.056 | | | 0.04 | | | | 10 | 47 | 0 | 35 | | USGS |
| May 12 1100 | 4,530 | 52 | 11.4 | 103 | 76.8 | 7.4 | 4.6 / 0.230 | 6.4 / 0.530 | 1.6 / 0.070 | 0.4 / 0.010 | 0 / 0.000 | 48 / 0.787 | 1.8 / 0.037 | 0.8 / 0.023 | 0.2 / 0.003 | 0.2 / 0.011 | 0.02 | 14 | Fe 0.1; Al 0.2; (a) $PO_4$ 0.05 | 54[b] | 8 | 38 | 0 | 9 | | USGS |
| Jun 20 1400 | 856 | 68 | 8.9 | 97 | 90.3 | 7.6 | 5.1 / 0.254 | 7.1 / 0.586 | 2.3 / 0.100 | 0.5 / 0.013 | 0 / 0.000 | 54 / 0.885 | | 2.0 / 0.056 | | | 0.06 | | | | 10 | 42 | 0 | 0.8 | | USGS |
| Jul 18 1400 | 307 | 74 | 7.9 | 92 | 119 | 8.2 | 8.1 / 0.404 | 8.9 / 0.736 | 3.5 / 0.152 | 0.6 / 0.015 | 0 / 0.000 | 72 / 1.180 | | 3.5 / 0.099 | | | 0.04 | | | | 12 | 57 | 0 | 1 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 19 1430 | 114 | 69 | 9.6 | 106 | 157 | 8.1 | 12 / 0.599 | 9.8 / 0.805 | 4.1 / 0.178 | 0.7 / 0.018 | 0 / 0.000 | 85 / 1.393 | 2.0 / 0.042 | 6.2 / 0.175 | 0.1 / 0.002 | 0.1 / 0.005 | 0.02 | 18 | Cu 0.03; Zn 0.01; (a) | 95[b] | 11 | 70 | 0 | 1 | | USGS |
| Oct 11 1530 | 205 | 59 | 9.5 | 94 | 152 | 7.6 | 9.6 / 0.479 | 11 / 0.913 | 4.5 / 0.196 | 0.5 / 0.013 | 0 / 0.000 | 82 / 1.344 | | 5.6 / 0.158 | | | 0.09 | | | | 12 | 69 | 2 | 2 | | USGS |
| Nov 15 1500 | 186 | 46 | 11.3 | 94 | 163 | 7.6 | 10 / 0.499 | 11 / 0.941 | 5.6 / 0.244 | 0.6 / 0.015 | 0 / 0.000 | 85 / 1.393 | | 9.8 / 0.276 | | | 0.05 | | | | 14 | 72 | 2 | 10 | | USGS |
| Dec 19 1400 | 1120 | 44 | 11.6 | 94 | 111 | 7.4 | 6.8 / 0.339 | 7.9 / 0.641 | 4.1 / 0.178 | 0.6 / 0.015 | 0 / 0.000 | 61 / 1.000 | | 3.5 / 0.099 | | | 0.06 | | | | 15 | 49 | 0 | 45 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 0.62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 62 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr); reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 10
## ANALYSES OF SURFACE WATER

REGION 1

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Trinity River at Lewiston** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1515 | 4,640 | 38 | 10.7 | 80 | 81.0 | 7.6 | 5.0 / 0.250 | 6.2 / 0.510 | 2.0 / 0.087 | 0.4 / 0.010 | 0 / 0.000 | 48 / 0.787 | | 0.3 / 0.008 | | | 0.00 | | | | 10 | 38 | 0 | 15 | | USGS |
| Feb 14 1200 | 1,750 | 48 | 11.8 | 101 | 100 | 7.6 | 7.0 / 0.349 | 7.0 / 0.579 | 2.7 / 0.117 | 0.3 / 0.008 | 0 / 0.000 | 60 / 0.983 | | 0.0 / 0.000 | | | 0.06 | | | | 11 | 46 | 0 | 40 | | USGS |
| Mar 12 1020 | 1,940 | 36 | 11.7 | 85 | 102 | 7.5 | 6.8 / 0.339 | 7.8 / 0.641 | 2.6 / 0.113 | 0.5 / 0.013 | 0 / 0.000 | 61 / 1.000 | | 1.8 / 0.051 | | | 0.04 | | | | 10 | 49 | 0 | 45 | | USGS |
| Apr 10 1030 | 5,170 | 46 | 10.7 | 90 | 90.4 | 7.5 | 4.4 / 0.220 | 8.3 / 0.680 | 2.8 / 0.122 | 0.5 / 0.013 | 0 / 0.000 | 61 / 1.000 | | 1.0 / 0.028 | | | 0.03 | | | | 12 | 45 | 0 | 35 | | USGS |
| May 14 1015 | 3,780 | 51 | 10.9 | 97 | 82.5 | 7.4 | 6.0 / 0.299 | 6.6 / 0.541 | 3.1 / 0.135 | 0.6 / 0.015 | 0 / 0.000 | 55 / 0.901 | 1.0 / 0.021 | 2.0 / 0.056 | 0.2 / 0.003 | 0.1 / 0.005 | 0.08 | 11 | Fe 0.03; Al 0.09; Cu 0.01; (a) $PO_4$ 0.05 | 58[b] | 14 | 42 | 0 | 10 | | USGS |
| June 12 1200 | 3,650 | 56 | 9.2 | 87 | 64.3 | 7.3 | 3.5 / 0.175 | 5.0 / 0.409 | 2.5 / 0.109 | 0.7 / 0.018 | 0 / 0.000 | 40 / 0.656 | | 0.5 / 0.014 | | | 0.06 | | | | 15 | 29 | 0 | 20 | | USGS |
| July 10 1630 | 1,090 | 72 | 7.5 | 85 | 85.8 | 7.5 | 4.6 / 0.230 | 6.3 / 0.550 | 3.7 / 0.161 | 0.7 / 0.018 | 0 / 0.000 | 54 / 0.885 | | 2.3 / 0.065 | | | 0.05 | | | | 17 | 39 | 0 | 0.5 | | USGS |
| Aug 15 1630 | 284 | 75 | 7.1 | 83 | 144 | 7.6 | 7.2 / 0.359 | 11 / 0.901 | 7.2 / 0.313 | 0.8 / 0.020 | 0 / 0.000 | 81 / 1.328 | | 6.5 / 0.183 | | | 0.10 | | | | 20 | 63 | 0 | 2 | | USGS |
| Sept 13 1145 | 195 | 70 | 8.4 | 93 | 165 | 7.6 | 9.4 / 0.469 | 11 / 0.891 | 8.2 / 0.357 | 0.9 / 0.023 | 0 / 0.000 | 88 / 1.442 | 3.6 / 0.075 | 7.8 / 0.220 | 0.3 / 0.005 | 0.0 / 0.000 | 0.16 | 18 | Al 0.03; Cu 0.01; Pb 0.01; Zn 0.01; (a) | 102[b] | 21 | 68 | 0 | 1 | | USGS |
| Oct 16 0945 | 218 | 59 | 8.9 | 88 | 184 | 7.6 | 10 / 0.499 | 12 / 0.961 | 10 / 0.435 | 0.6 / 0.015 | 0 / 0.000 | 97 / 1.590 | | 11 / 0.310 | | | 0.23 | | | | 23 | 73 | 0 | 0.4 | | USGS |
| Nov 13 1130 | 443 | 53 | 9.8 | 90 | 149 | 7.5 | 7.9 / 0.394 | 9.3 / 0.766 | 8.7 / 0.378 | 0.6 / 0.015 | 0 / 0.000 | 81 / 1.328 | | 7.0 / 0.197 | | | 0.18 | | | | 24 | 58 | 0 | 0.6 | | USGS |
| Dec 12 1300 | 1,300 | 46 | 11.4 | 95 | 99.5 | 7.4 | 5.8 / 0.29 | 6.0 / 0.49 | 4.7 / 0.20 | 0.7 / 0.02 | 0 / 0.00 | 54 / 0.89 | | 4.4 / 0.12 | | | 0.08 | | | | 20 | 39 | 0 | 130 | median 2.3 minimum .06 maximum 130 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH),

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Alameda Creek near Niles | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1215 | 20 | 41 | 11.9 | 93 | 979 | 8.2 | 5.7 / 0.28 | 79 / 6.50 | 81 / 3.52 | 7.1 / 0.18 | 0 / 0.00 | 334 / 5.47 | | 98 / 2.76 | | | 0.52 | | | | 34 | 339 | 65 | 1 | | USGS |
| Feb 17 1100 | 6.8 | 54 | 9.5 | 88 | 1040 | 8.2 | 75 / 3.74 | 45 / 3.70 | 87 / 3.78 | 7.3 / 0.19 | 0 / 0.00 | 380 / 6.23 | | 94 / 2.65 | | | 0.73 | | | | 33 | 372 | 60 | 0.5 | | USGS |
| Mar 21 1130 | 6.2 | 53 | 7.0 | 64 | 916 | 8.2 | 21 / 1.05 | 69 / 5.69 | 75 / 3.26 | 5.0 / 0.13 | 0 / 0.00 | 366 / 6.00 | | 72 / 2.03 | | | 0.59 | | | | 32 | 337 | 37 | 1 | | USGS |
| Apr 25 1040 | 6.2 | 56 | 7.9 | 75 | 1060 | 8.1 | 64 / 3.19 | 54 / 4.48 | 88 / 3.83 | 6.8 / 0.17 | 0 / 0.00 | 429 / 7.03 | | 91 / 2.57 | | | 0.98 | | | | 33 | 384 | 32 | 3 | | USGS |
| May 20 1015 | 3.5 | 72 | 6.7 | 76 | 1070 | 8.0 | 32 / 1.60 | 76 / 6.22 | 90 / 3.91 | 6.5 / 0.17 | 6 / 0.20 | 437 / 7.16 | 90 / 1.87 | 93 / 2.62 | 0.3 / 0.00 | 0.3 / 0.02 | 0.87 | 15 | Fe 0.005; Al 0.005; $PO_4$ 1.9; (a) | 625[b] | 33 | 391 | 23 | 0.8 | | USGS |
| Jun 22 0930 | 1.3 | 66 | 7.5 | 80 | 1090 | 7.8 | 94 / 4.69 | 40 / 3.27 | 95 / 4.13 | 5.9 / 0.15 | 10 / 0.33 | 439 / 7.19 | | 96 / 2.71 | | | 1.1 | | | | 34 | 398 | 38 | 0.3 | | USGS |
| Jul 20 1250 | 0.3 | 73 | 8.6 | 99 | 1100 | 7.4 | 52 / 2.59 | 66 / 5.45 | 89 / 3.87 | 6.1 / 0.16 | 0 / 0.00 | 459 / 7.52 | | 98 / 2.76 | | | 1.2 | | | | 32 | 402 | 26 | 2 | | USGS |
| Aug 24 1130 | 0.2 | 69 | 8.2 | 90 | 1240 | 7.9 | 80 / 3.99 | 56 / 4.59 | 107 / 4.65 | 6.6 / 0.17 | 0 / 0.00 | 479 / 7.85 | | 132 / 3.72 | | | 1.4 | | | | 35 | 429 | 36 | 7 | | USGS |
| Sep | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 19 1330 | 0.3 | 64 | 10.4 | 108 | 1170 | 7.4 | 80 / 3.99 | 49 / 3.99 | 104 / 4.52 | 5.4 / 0.14 | 0 / 0.00 | 441 / 7.23 | | 112 / 3.16 | | | 1.3 | | | | 36 | 399 | 37 | 3 | | USGS |
| Nov 22 1230 | 0.9 | 51 | 9.6 | 86 | 1180 | 7.6 | 88 / 4.39 | 51 / 4.21 | 100 / 4.35 | 7.4 / 0.19 | 0 / 0.00 | 448 / 7.34 | | 124 / 3.50 | | | 1.1 | | | | 33 | 430 | 63 | 1 | | USGS |
| Dec 19 1130 | 16 | 53 | 8.6 | 79 | 567 | 7.3 | 43 / 2.15 | 22 / 1.79 | 41 / 1.78 | 6.7 / 0.17 | 0 / 0.00 | 184 / 3.02 | | 48 / 1.35 | | | 0.55 | | | | 30 | 197 | 46 | 280 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .045 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Alameda Creek near Niles** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 23 1100 | 1,530 | 53 | 11.0 | 101 | 305 | 7.0 | 26 / 1.297 | 12 / 0.983 | 18 / 0.783 | 2.0 / 0.051 | 0 / 0.000 | 133 / 2.180 | | 13 / 0.367 | | | 0.24 | | | | 25 | 114 | 5 | 400 | | USGS |
| Feb 14 1115 | 285 | 48 | 11.6 | 100 | 448 | 7.6 | 45 / 2.246 | 16 / 1.354 | 26 / 1.131 | 2.0 / 0.051 | 3 / 0.100 | 184 / 3.016 | | 22 / 0.620 | | | 0.26 | | | | 24 | 180 | 24 | 25 | | USGS |
| Mar 20 1415 | 94 | 56 | 13.3 | 126 | 532 | 7.8 | 50 / 2.50 | 21 / 1.76 | 31 / 1.35 | 2.3 / 0.06 | 6 / 0.20 | 207 / 3.39 | | 28 / 0.79 | | | 0.39 | | | | 24 | 213 | 33 | 3 | | USGS |
| Apr 18 1000 | 56 | 58 | 10.6 | 103 | 549 | 7.4 | 48 / 2.40 | 23 / 1.92 | 37 / 1.61 | 2.7 / 0.07 | 0 / 0.00 | 237 / 3.88 | | 29 / 0.82 | | | 0.41 | | | | 27 | 216 | 22 | 4 | | USGS |
| May 17 1215 | 7.0 | 70 | 8.6 | 96 | 899 | 7.6 | 76 / 3.79 | 41 / 3.41 | 60 / 2.61 | 4.0 / 0.10 | 0 / 0.00 | 349 / 5.72 | 113 / 2.35 | 60 / 1.69 | 1.0 / 0.02 | 0.1 / 0.01 | 0.82 | 9.3 | Al 1.3; Cu 0.01; Zn 0.01; $PO_4$ 0.80 (a) | 537[b] | 26 | 360 | 74 | 1 | | USGS |
| June 21 1240 | 5.1 | 72 | 9.1 | 104 | 971 | 7.7 | 73 / 3.64 | 48 / 3.96 | 77 / 3.35 | 4.4 / 0.11 | 0 / 0.00 | 367 / 6.02 | | 80 / 2.26 | | | 1.1 | | | | 30 | 380 | 79 | 1 | | USGS |
| July 25 0930 | 1.4 | 74 | 8.2 | 95 | 918 | 7.7 | 52 / 2.59 | 53 / 4.35 | 76 / 3.31 | 4.2 / 0.11 | 0 / 0.00 | 356 / 5.83 | | 68 / 1.92 | | | 0.92 | | | | 32 | 347 | 55 | 3 | | USGS |
| Aug 23 1330 | 0.9 | 76 | 9.7 | 115 | 965 | 7.4 | 50 / 2.50 | 55 / 4.51 | 80 / 3.48 | 1.9 / 0.05 | 0 / 0.00 | 343 / 5.62 | | 88 / 2.48 | | | 1.2 | | | | 33 | 350 | 69 | 2 | | USGS |
| Sept 14 1230 | 0.6 | 71 | 9.9 | 111 | 966 | 7.9 | 69 / 3.44 | 45 / 3.72 | 88 / 3.83 | 3.7 / 0.09 | 0 / 0.00 | 330 / 5.41 | 142 / 2.96 | 82 / 2.31 | 0.4 / 0.01 | 0.4 / 0.02 | 1.0 | 15 | Al 0.13; Cu 0.02; Zn 0.01; $PO_4$ 0.05; (a) | 610[b] | 35 | 358 | 87 | 5 | | USGS |
| Oct 11 1330 | 1.3 | 65 | 9.1 | 96 | 946 | 7.6 | 58 / 2.89 | 46 / 3.79 | 80 / 3.48 | 3.7 / 0.09 | 0 / 0.00 | 360 / 5.90 | | 83 / 2.34 | | | 0.96 | | | | 34 | 334 | 39 | 2 | | USGS |
| Nov 16 1330 | 8.0 | 50 | 12.5 | 110 | 366 | 7.4 | 36 / 1.80 | 14 / 1.18 | 20 / 0.87 | 1.7 / 0.04 | 0 / 0.00 | 173 / 2.84 | | 15 / 0.42 | | | 0.35 | | | | 22 | 149 | 7 | 1.2 | | USGS |
| Dec 18 1500 | 7.2 | 47 | 13.3 | 113 | 477 | 8.1 | 43 / 2.15 | 20 / 1.63 | 29 / 1.26 | 2.2 / 0.06 | 0 / 0.00 | 215 / 3.52 | | 26 / 0.73 | | | 0.46 | | | | 25 | 189 | 13 | 1 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 62 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{.00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH),

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen % Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Coyote Creek near Madrone | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1350 | 30 | 50 | 11.3 | 100 | 450 | 8.0 | 45 / 2.246 | 16 / 1.344 | 20 / 0.870 | 2.3 / 0.059 | 0 / 0.000 | 218 / 3.573 | | 14 / 0.395 | | | 0.11 | | | | 19 | 180 | 1 | 2 | | USGS |
| Feb 17 1300 | 17 | 54 | 13.4 | 124 | 453 | 8.2 | 48 / 2.40 | 21 / 1.70 | 20 / 0.87 | 2.3 / 0.06 | 10 / 0.33 | 203 / 3.33 | | 14 / 0.39 | | | 0.09 | | | | 17 | 205 | 22 | 1 | | USGS |
| Mar 21 1320 | 28 | 53 | 11.2 | 101 | 456 | 8.1 | 43 / 2.146 | 22 / 1.834 | 20 / 0.870 | 2.7 / 0.069 | 0 / 0.000 | 218 / 3.573 | | 13 / 0.367 | | | 0.04 | | | | 18 | 199 | 20 | 3 | | USGS |
| Apr 25 1230 | 54 | 50 | 10.7 | 97 | 444 | 7.9 | 42 / 2.096 | 23 / 1.896 | 20 / 0.870 | 2.7 / 0.069 | 0 / 0.000 | 224 / 3.671 | | 13 / 0.367 | | | 0.11 | | | | 18 | 200 | 16 | 1 | | USGS |
| May 18 1340 | 50 | 55 | 10.8 | 101 | 448 | 8.2 | 47 / 2.35 | 20 / 1.67 | 20 / 0.87 | 3.1 / 0.08 | 5 / 0.17 | 219 / 3.59 | 44 / 0.92 | 14 / 0.39 | 1.0 / 0.02 | 0.3 / 0.02 | 0.15 | 9.2 | Fe 0.005; Al 0.005; $PO_4$ 0.00; (a) | 272[b] | 18 | 201 | 13 | 2 | | USGS |
| Jun 22 1140 | 84 | 54 | 10.8 | 100 | 463 | 7.6 | 51 / 2.54 | 19 / 1.57 | 20 / 0.87 | 2.3 / 0.06 | 0 / 0.00 | 233 / 3.82 | | 13 / 0.37 | | | 0.09 | | | | 17 | 206 | 15 | 1 | | USGS |
| Jul 20 1400 | 31 | 59 | 10.9 | 107 | 459 | 7.6 | 38 / 1.896 | 26 / 2.124 | 20 / 0.870 | 2.7 / 0.069 | 0 / 0.000 | 299 / 3.753 | | 13 / 0.367 | | | 0.07 | | | | 18 | 201 | 13 | 2 | | USGS |
| Aug 24 1300 | 74 | 62 | 9.5 | 97 | 450 | 7.8 | 43 / 2.146 | 22 / 1.834 | 20 / 0.870 | 2.3 / 0.059 | 0 / 0.000 | 227 / 3.720 | | 14 / 0.395 | | | 0.13 | | | | 18 | 199 | 13 | 4 | | USGS |
| Sep 21 1415 | 74 | 67 | 8.6 | 93 | 462 | 7.4 | 44 / 2.20 | 23 / 1.88 | 19 / 0.83 | 2.5 / 0.06 | 0 / 0.00 | 222 / 3.64 | 45 / 0.94 | 14 / 0.39 | 1.1 / 0.02 | 0.5 / 0.03 | 0.16 | 12 | Fe 0.01; Al 0.12; (a) | 270[b] | 17 | 204 | 22 | 2 | | USGS |
| Oct 19 1500 | 70 | 65 | 9.1 | 96 | 502 | 7.6 | 50 / 2.50 | 23 / 1.89 | 22 / 0.96 | 2.7 / 0.07 | 0 / 0.00 | 241 / 3.95 | | 15 / 0.42 | | | 0.16 | | | | 18 | 220 | 22 | 5 | | USGS |
| Nov 22 1345 | 17 | 57 | 10.0 | 96 | 524 | 7.4 | 53 / 2.64 | 26 / 2.10 | 24 / 1.04 | 3.1 / 0.08 | 2 / 0.07 | 245 / 4.02 | | 17 / 0.48 | | | 0.22 | | | | 18 | 237 | | 10 | | USGS |
| Dec 1[illegible] 1340 | 5.6 | 54 | 10.2 | 94 | 527 | 7.3 | 51 / 2.54 | 26 / 2.16 | 24 / 1.04 | 3.0 / 0.08 | 0 / 0.00 | 243 / 3.98 | | 18 / 0.51 | | | 0.29 | | | | 18 | 235 | | 35 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Coyote Creek near Madrone | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 23 1215 | 1.8 | 54 | 10.0 | 93 | 416 | 7.0 | 38 / 1.896 | 21 / 1.764 | 14 / 0.609 | 2.0 / 0.051 | 0 / 0.000 | 131 / 2.147 | | 9.0 / 0.254 | | | 0.14 | | | | 14 | 183 | 76 | 330 | | USGS |
| Feb 14 1230 | 1.8 | 51 | 16.0 | 143 | 475 | 8.0 | 45 / 2.246 | 25 / 2.034 | 18 / 0.783 | 1.8 / 0.046 | 6 / 0.200 | 161 / 2.639 | | 13 / 0.367 | | | 0.12 | | | | 15 | 214 | 72 | 50 | | USGS |
| Mar 20 1200 | 3.0 | 54 | 16.0 | 148 | 344 | 7.6 | 31 / 1.547 | 19 / 1.573 | 13 / 0.566 | 1.9 / 0.049 | 5 / 0.167 | 140 / 2.295 | | 9.5 / 0.268 | | | 0.16 | | | | 15 | 156 | 33 | 45 | | USGS |
| Apr 17 1440 | 31 | 56 | 11.1 | 106 | 280 | 7.0 | 24 / 1.198 | 13 / 1.102 | 13 / 0.566 | 2.3 / 0.059 | 0 / 0.000 | 128 / 2.098 | | 7.0 / 0.197 | | | 0.05 | | | | 19 | 115 | 10 | 50 | | USGS |
| May 16 1215 | 93 | 52 | 10.1 | 92 | 269 | 7.4 | 26 / 1.297 | 13 / 1.063 | 13 / 0.565 | 2.3 / 0.059 | 0 / 0.000 | 122 / 2.000 | 31 / 0.645 | 8.5 / 0.240 | 4.4 / 0.071 | 0.1 / 0.005 | 0.16 | 11 | Fe 0.18; Al 1.0; Cu 0.01 Zn 0.01; (a) $PO_4$ 0.25 | 170[b] | 19 | 118 | 18 | 80 | | USGS |
| June 20 1245 | 70 | 54 | 11.5 | 107 | 293 | 7.5 | 28 / 1.397 | 12 / 1.003 | 15 / 0.652 | 2.5 / 0.064 | 0 / 0.000 | 122 / 2.000 | | 9.2 / 0.259 | | | 0.00 | | | | 21 | 120 | 20 | 45 | | USGS |
| July 25 1130 | 64 | 54 | 13.3 | 123 | 273 | 7.9 | 26 / 1.297 | 12 / 0.995 | 13 / 0.565 | 2.2 / 0.056 | 0 / 0.000 | 126 / 2.065 | | 8.6 / 0.243 | | | 0.14 | | | | 19 | 115 | 12 | 20 | | USGS |
| Aug 22 1240 | 62 | 56 | 14.1 | 134 | 274 | 7.5 | 26 / 1.297 | 12 / 0.995 | 13 / 0.566 | 1.9 / 0.049 | 0 / 0.000 | 125 / 2.049 | | 8.0 / 0.226 | | | 0.06 | | | | 19 | 115 | 13 | 7 | | USGS |
| Sept 13 1000 | 58 | 52 | 12.7 | 115 | 272 | 7.9 | 27 / 1.347 | 12 / 1.013 | 13 / 0.566 | 1.8 / 0.046 | 0 / 0.000 | 127 / 2.082 | 28 / 0.583 | 8.2 / 0.231 | 2.6 / 0.042 | 0.2 / 0.011 | 0.08 | 15 | Fe 0.03; Al 0.16; Cu 0.02; $PO_4$ 0.10; (a) | 171[b] | 19 | 118 | 14 | 3 | | USGS |
| Oct 11 1110 | 54 | 54 | 13.0 | 121 | 276 | 8.1 | 26 / 1.297 | 12 / 1.023 | 13 / 0.566 | 2.0 / 0.051 | 0 / 0.000 | 128 / 2.098 | | 8.5 / 0.240 | | | 0.00 | | | | 19 | 116 | 11 | 0.4 | | USGS |
| Nov 16 1200 | 54 | 53 | 12.1 | 111 | 280 | 7.2 | 27 / 1.35 | 12 / 0.99 | 13 / 0.57 | 2.0 / 0.05 | 0 / 0.00 | 134 / 2.20 | | 9.2 / 0.26 | | | 0.00 | | | | 19 | 117 | 7 | 3.1 | | USGS |
| Dec 17 1200 | 34 | 53 | 11.5 | 105 | 308 | 7.9 | 32 / 1.60 | 13 / 1.03 | 14 / 0.61 | 2.2 / 0.06 | 0 / 0.00 | 149 / 2.44 | | 9.0 / 0.25 | | | 0.10 | | | | 18 | 131 | 9 | 0.9 | median 6.2 minimum .23 maximum 620 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Corp. (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH)

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Los Gatos Creek at Los Gatos | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 0900 | 5.6 | 46 | 11.8 | 98 | 298 | 7.8 | 33 / 1.647 | 13 / 1.033 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 142 / 2.327 | | 7.0 / 0.197 | | | 0.00 | | | | 14 | 134 | 18 | 55 | | USGS |
| Feb 18 1220 | 45 | 49 | 11.5 | 100 | 378 | 7.6 | 41 / 2.046 | 16 / 1.314 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 142 / 2.327 | | 7.5 / 0.212 | | | 0.08 | | | | 16 | 168 | 52 | 25 | | USGS |
| Mar 25 1330 | 3.9 | 51 | 11.2 | 100 | 369 | 7.7 | 40 / 1.996 | 19 / 1.524 | 15 / 0.652 | 1.5 / 0.038 | 4 / 0.133 | 153 / 2.507 | | 8.5 / 0.240 | | | 0.06 | | | | 15 | 176 | 44 | 10 | | USGS |
| Apr 26 1300 | 1.2 | 55 | 11.2 | 98 | 436 | 8.0 | 38 / 1.896 | 26 / 2.104 | 15 / 0.652 | 1.3 / 0.033 | 0 / 0.000 | 197 / 3.229 | | 7.9 / 0.223 | | | 0.12 | | | | 14 | 200 | 38 | 12 | | USGS |
| May 20 0830 | 58 | 65 | 8.2 | 87 | 445 | 8.0 | 35 / 1.747 | 27 / 2.253 | 17 / 0.739 | 1.8 / 0.046 | 0 / 0.000 | 178 / 2.917 | 74 / 1.541 | 9.5 / 0.268 | 0.9 / 0.015 | 0.1 / 0.005 | 0.02 | 14 | Al 0.005; $PO_4$ 0.05; (a) | 267[b] | 15 | 200 | 54 | 10 | | USGS |
| Jun 24 0850 | 1.2 | 63 | 9.5 | 98 | 693 | 7.6 | 84 / 4.19 | 29 / 2.42 | 28 / 1.22 | 2.5 / 0.06 | 0 / 0.00 | 311 / 5.10 | | 18 / 0.51 | | | 0.13 | | | | 15 | 330 | 75 | 3 | | USGS |
| Jul 22 0825 | 0.4 | 64 | 9.4 | 97 | 730 | 7.8 | 84 / 4.19 | 35 / 2.91 | 29 / 1.26 | 2.5 / 0.06 | 0 / 0.00 | 347 / 5.69 | | 19 / 0.54 | | | 0.25 | | | | 15 | 355 | 70 | 8 | | USGS |
| Aug 25 1025 | 0.2 | 59 | 9.6 | 95 | 746 | 7.8 | 82 / 4.09 | 39 / 3.17 | 27 / 1.17 | 2.2 / 0.06 | 0 / 0.00 | 362 / 5.93 | | 20 / 0.56 | | | 0.18 | | | | 14 | 363 | 66 | 3 | | USGS |
| Sep 22 1300 | 0.6 | 64 | 9.6 | 100 | 724 | 7.9 | 81 / 4.04 | 34 / 2.82 | 29 / 1.26 | 2.5 / 0.06 | 0 / 0.00 | 332 / 5.44 | 103 / 2.14 | 20 / 0.56 | 0.1 / 0.00 | 0.4 / 0.02 | 0.15 | 18 | Al 0.18; Cu 0.01; Zn 0.01; (a) | 452[b] | 15 | 343 | 71 | 2 | | USGS |
| Oct 20 1245 | 0.9 | 60 | 9.8 | 98 | 621 | 7.8 | 70 / 3.49 | 28 / 2.31 | 27 / 1.17 | 2.3 / 0.06 | 5 / 0.17 | 282 / 4.62 | | 16 / 0.45 | | | 0.18 | | | | 17 | 290 | 51 | 3 | | USGS |
| Nov 23 1300 | 1.1 | 49 | 11.0 | 96 | 416 | 7.2 | 47 / 2.345 | 19 / 1.535 | 15 / 0.652 | 1.8 / 0.046 | 0 / 0.000 | 206 / 3.376 | | 9.0 / 0.254 | | | 0.24 | | | | 14 | 194 | 25 | 3 | | USGS |
| Dec 20 1230 | 24 | 55 | 10.1 | 95 | 236 | 7.0 | 26 / 1.297 | 8.5 / 0.703 | 8.6 / 0.374 | 1.7 / 0.043 | 0 / 0.000 | 101 / 1.655 | | 7.0 / 0.197 | | | 0.15 | | | | 15 | 100 | 17 | 55 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Los Gatos Creek at Los Gatos** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 24 1330 | 120 | 51 | 10.9 | 97 | 221 | 6.8 | 24 / 1.198 | 8.0 / 0.662 | 6.9 / 0.300 | 1.9 / 0.049 | 0 / 0.000 | 93 / 1.524 | | 6.0 / 0.169 | | | 0.11 | | | | 14 | 93 | 17 | 120 | | USGS |
| Feb 15 1230 | 38 | 49 | 12.3 | 107 | 267 | 7.0 | 29 / 1.447 | 11 / 0.881 | 9.8 / 0.426 | 1.4 / 0.036 | 0 / 0.000 | 119 / 1.950 | | 5.9 / 0.166 | | | 0.09 | | | | 15 | 116 | 18 | 40 | | USGS |
| Mar 19 1215 | 37 | 54 | 11.5 | 107 | 241 | 7.4 | 25 / 1.248 | 10 / 0.832 | 8.7 / 0.378 | 1.7 / 0.043 | 0 / 0.000 | 107 / 1.754 | | 6.0 / 0.169 | | | 0.22 | | | | 15 | 104 | 16 | 45 | | USGS |
| Apr 16 1340 | 124 | 50 | 11.0 | 97 | 245 | 7.2 | 26 / 1.297 | 10 / 0.843 | 9.3 / 0.405 | 1.6 / 0.041 | 0 / 0.000 | 118 / 1.934 | | 4.0 / 0.113 | | | 0.19 | | | | 16 | 107 | 10 | 25 | | USGS |
| May 17 1015 | 60 | 51 | 10.6 | 95 | 253 | 7.0 | 28 / 1.397 | 11 / 0.923 | 9.4 / 0.409 | 1.8 / 0.046 | 0 / 0.000 | 116 / 1.901 | 31 / 0.645 | 6.2 / 0.175 | 0.8 / 0.013 | 0.3 / 0.016 | 0.04 | 13 | Fe 0.12; Al 0.42; $PO_4$ 0.10 (a) Zn 0.01 | 159[b] | 15 | 116 | 21 | 14 | | USGS |
| June 21 1100 | 57 | 52 | 10.7 | 97 | 266 | 7.3 | 28 / 1.397 | 13 / 1.063 | 9.5 / 0.413 | 1.7 / 0.043 | 0 / 0.000 | 125 / 2.049 | | 5.5 / 0.155 | | | 0.08 | | | | 14 | 123 | 21 | 5 | | USGS |
| July 26 1210 | 47 | 54 | 10.2 | 95 | 283 | 7.3 | 33 / 1.647 | 12 / 0.973 | 10 / 0.435 | 1.6 / 0.041 | 0 / 0.000 | 138 / 2.262 | | 6.1 / 0.172 | | | 0.08 | | | | 14 | 131 | 18 | 3 | | USGS |
| Aug 23 1045 | 32 | 58 | 9.8 | 95 | 301 | 7.1 | 32 / 1.597 | 13 / 1.103 | 11 / 0.478 | 2.1 / 0.054 | 0 / 0.000 | 149 / 2.442 | | 6.3 / 0.178 | | | 0.03 | | | | 15 | 135 | 13 | 2 | | USGS |
| Sept 14 1030 | 53 | 61 | 9.0 | 91 | 308 | 7.3 | 37 / 1.846 | 12 / 0.974 | 11 / 0.478 | 2.0 / 0.051 | 0 / 0.000 | 156 / 2.557 | 28 / 0.583 | 7.5 / 0.212 | 1.6 / 0.026 | 0.2 / 0.011 | 0.06 | 18 | Al 0.13; Cu 0.01; Zn 0.01; $PO_4$ 0.20; | 194[b] | 14 | 141 | 13 | 3 | | USGS |
| Oct 10 1240 | 6.4 | 66 | 9.5 | 101 | 366 | 7.6 | 41 / 2.046 | 15 / 1.230 | 13 / 0.566 | 2.2 / 0.056 | 0 / 0.000 | 180 / 2.950 | | 8.0 / 0.226 | | | 0.00 | | | | 15 | 164 | 16 | 0.4 | | USGS |
| Nov 15 1320 | 37 | 58 | 11.5 | 112 | 374 | 7.3 | 43 / 2.15 | 16 / 1.29 | 12 / 0.52 | 2.4 / 0.06 | 0 / 0.00 | 183 / 3.00 | | 8.8 / 0.25 | | | 1.0 | | | | 13 | 172 | 22 | 20 | | USGS |
| Dec 18 1320 | 36 | 50 | 11.4 | 101 | 406 | 7.7 | 47 / 2.35 | 18 / 1.45 | 14 / 0.61 | 2.5 / 0.06 | 0 / 0.00 | 201 / 3.29 | | 9.0 / 0.25 | | | 0.00 | | | | 14 | 190 | 25 | 4 | median 2.3 minimum .06 maximum 62 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH),

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Napa River near St. Helena | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1300 | 124 | 45 | 11.5 | 95 | 179 | 7.4 | 14 / 0.699 | 7.8 / 0.641 | 8.9 / 0.387 | 2.1 / 0.054 | 0 / 0.000 | 80 / 1.311 | | 7.8 / 0.220 | | | 0.18 | | | | 22 | 67 | 1 | 5 | | USGS |
| Feb 10 1120 | 32 | 48 | 9.8 | 84 | 224 | 7.4 | 17 / 0.848 | 7.0 / 0.572 | 17 / 0.739 | 3.6 / 0.092 | 0 / 0.000 | 91 / 1.491 | | 14 / 0.395 | | | 0.31 | | | | 33 | 71 | 0 | 2 | | USGS |
| Mar 4 1345 | 38 | 48 | 9.8 | 84 | 237 | 7.4 | 18 / 0.898 | 8.8 / 0.722 | 18 / 0.783 | 3.0 / 0.077 | 0 / 0.000 | 100 / 1.639 | | 15 / 0.423 | | | 0.36 | | | | 32 | 81 | 0 | 9 | | USGS |
| Apr 6 1315 | 11 | 59 | 10.2 | 100 | 282 | 7.4 | 16 / 0.798 | 12 / 1.002 | 22 / 0.957 | 3.2 / 0.082 | 0 / 0.000 | 123 / 2.016 | | 19 / 0.536 | | | 0.58 | | | | 34 | 90 | 0 | 3 | | USGS |
| May 17 0830 | 13 | 61 | 7.8 | 78 | 273 | 7.2 | 19 / 0.948 | 9.1 / 0.752 | 22 / 0.957 | 2.9 / 0.074 | 0 / 0.000 | 118 / 1.934 | 14 / 0.291 | 19 / 0.536 | 2.4 / 0.039 | 0.5 / 0.026 | 0.54 | 41 | Fe 0.02; Al 0.005; $PO_4$ 0.60; (a) | 188[b] | 35 | 85 | 0 | 3 | | USGS |
| Jun 21 0830 | 2.4 | 66 | 7.6 | 81 | 355 | 7.3 | 30 / 1.497 | 13 / 1.031 | 20 / 0.870 | 2.7 / 0.069 | 0 / 0.000 | 162 / 2.655 | | 17 / 0.479 | | | 0.44 | | | | 25 | 126 | 0 | 1 | | USGS |
| Jul 19 0925 | 0 | 67 | 6.0 | 65 | 359 | 7.2 | 27 / 1.347 | 18 / 1.473 | 21 / 0.913 | 3.7 / 0.095 | 0 / 0.000 | 195 / 3.196 | | 12 / 0.338 | | | 0.49 | | | | 24 | 141 | 0 | 1 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 17 1420 | 0 | 64 | 6.7 | 70 | 391 | 7.2 | 30 / 1.497 | 17 / 1.407 | 28 / 1.218 | 4.3 / 0.110 | 0 / 0.000 | 210 / 3.442 | | 11 / 0.310 | | | 0.35 | | | | 29 | 145 | 0 | 9 | | USGS |
| Nov 21 1000 | 1.9 | 52 | 7.4 | 67 | 433 | 7.0 | 37 / 1.846 | 19 / 1.534 | 22 / 0.957 | 8.3 / 0.212 | 0 / 0.000 | 194 / 3.180 | | 26 / 0.733 | | | 0.44 | | | | 21 | 169 | 10 | 6 | | USGS |
| Dec 13 0900 | 5.3 | 49 | 8.9 | 78 | 357 | 6.8 | 24 / 1.198 | 12 / 0.982 | 29 / 1.262 | 4.6 / 0.118 | 0 / 0.000 | 120 / 1.967 | | 38 / 1.072 | | | 1.0 | | | | 35 | 109 | 11 | 1 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 1.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 11
## ANALYSES OF SURFACE WATER

REGION 2

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Napa River near St. Helena | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1000 | 406 | 53 | 10.3 | 94 | 142 | 7.0 | 11 / 0.549 | 5.0 / 0.411 | 6.6 / 0.287 | 1.8 / 0.046 | 0 / 0.000 | 60 / 0.983 | | 5.0 / 0.141 | | | 0.10 | | | | 22 | 48 | 0 | 20 | | USGS |
| Feb 9 0920 | 90 | 50 | 11.4 | 100 | 195 | 7.0 | 16 / 0.798 | 7.1 / 0.582 | 11 / 0.478 | 2.0 / 0.051 | 0 / 0.000 | 84 / 1.377 | | 6.1 / 0.172 | | | 0.19 | | | | 25 | 69 | 0 | 4 | | USGS |
| Mar 15 1015 | 66 | 52 | 11.4 | 103 | 190 | 7.0 | 17 / 0.848 | 7.7 / 0.632 | 11 / 0.478 | 1.9 / 0.049 | 0 / 0.000 | 87 / 1.426 | | 8.0 / 0.226 | | | 0.05 | | | | 24 | 74 | 3 | 5 | | USGS |
| Apr 12 1005 | 41 | 55 | 10.1 | 95 | 233 | 6.8 | 18 / 0.898 | 9.5 / 0.782 | 15 / 0.652 | 2.6 / 0.067 | 0 / 0.000 | 103 / 1.688 | | 10 / 0.282 | | | 0.31 | | | | 27 | 84 | 0 | 15 | | USGS |
| May 14 1500 | 22 | 68 | 9.5 | 103 | 231 | 7.1 | 20 / 0.998 | 8.8 / 0.722 | 16 / 0.696 | 2.7 / 0.069 | 0 / 0.000 | 116 / 1.901 | 4.0 / 0.083 | 11 / 0.310 | 6.2 / 0.100 | 0.3 / 0.016 | 0.39 | 38 | Fe 0.02; Al 0.85; Cu 0.02; Zn 0.02; $PO_4$ 0.35 (a) | 164[b] | 28 | 86 | 0 | 6 | | USGS |
| June 18 1430 | 3.2 | 74 | 11.9 | 138 | 298 | 7.5 | 26 / 1.297 | 13 / 1.103 | 18 / 0.783 | 2.8 / 0.072 | 0 / 0.000 | 142 / 2.327 | | 13 / 0.367 | | | 0.29 | | | | 24 | 120 | 4 | 1 | | USGS |
| July 23 1540 | 0.50 | 80 | 12.5 | 154 | 339 | 7.9 | 31 / 1.547 | 16 / 1.293 | 18 / 0.783 | 3.2 / 0.082 | 0 / 0.000 | 178 / 2.917 | | 10 / 0.282 | | | 0.33 | | | | 21 | 142 | 0 | 3 | | USGS |
| Aug 20 1530 | 0 | 75 | 15.0 | 175 | 345 | 7.9 | 30 / 1.497 | 17 / 1.423 | 18 / 0.783 | 4.1 / 0.105 | 0 / 0.000 | 186 / 3.049 | | 10 / 0.282 | | | 0.33 | | | | 21 | 146 | 0 | 0.4 | | USGS |
| Sept 11 1600 | 0.1 | 71 | 13.9 | 156 | 319 | 8.2 | 28 / 1.397 | 13 / 1.103 | 22 / 0.957 | 2.2 / 0.056 | 0 / 0.00 | 181 / 2.967 | 13 / 0.271 | 10 / 0.282 | 1.1 / 0.018 | 0.3 / 0.016 | 0.25 | 37 | Fe 0.01; Al 0.05; Cu 0.02; $PO_4$ 0.20; (a) | 216[b] | 27 | 125 | 0 | 0.6 | | USGS |
| Oct 26 0750 | 0.8 | 55 | 10.0 | 94 | 363 | 7.5 | 34 / 1.697 | 16 / 1.343 | 18 / 0.783 | 2.4 / 0.061 | 0 / 0.000 | 198 / 3.245 | | 10 / 0.282 | | | 0.24 | | | | 20 | 152 | 0 | 0.8 | | USGS |
| Nov 13 1510 | 3.1 | 57 | 10.0 | 96 | 367 | 6.9 | 30 / 1.50 | 15 / 1.25 | 22 / 0.96 | 3.4 / 0.09 | 0 / 0.00 | 166 / 2.72 | | 29 / 0.82 | | | 0.14 | | | | 25 | 138 | 2 | 4.6 | | USGS |
| Dec 12 1410 | 3.5 | 50 | 10.1 | 89 | 368 | 7.1 | 26 / 1.30 | 14 / 1.16 | 27 / 1.17 | 3.2 / 0.08 | 0 / 0.00 | 142 / 2.33 | | 40 / 1.13 | | | 0.97 | | | | 32 | 123 | 7 | 3 | median 42 minimum .62 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Carmel River near Carmel | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 0930 | No Record | 46 | 10.5 | 88 | 283 | 7.3 | 27 / 1.347 | 7.5 / 0.613 | 17 / 0.739 | 2.7 / 0.069 | 0 / 0.000 | 97 / 1.590 | | 19 / 0.536 | | | 0.00 | | | | 27 | 98 | 18 | 80 | | USGS |
| Feb 17 1640 | " | 56 | 9.0 | 85 | 314 | 7.4 | 30 / 1.497 | 9.0 / 0.743 | 19 / 0.826 | 2.3 / 0.059 | 0 / 0.000 | 109 / 1.786 | | 17 / 0.479 | | | 0.02 | | | | 26 | 112 | 23 | 0.8 | | USGS |
| Mar 22 0920 | " | 51 | 10.2 | 91 | 289 | 7.4 | 28 / 1.397 | 10 / 0.823 | 17 / 0.739 | 2.6 / 0.067 | 0 / 0.000 | 111 / 1.819 | | 16 / 0.451 | | | 0.09 | | | | 24 | 111 | 20 | 0.5 | | USGS |
| Apr. 26 0900 | " | 52 | 10.2 | 92 | 239 | 7.6 | 20 / 0.998 | 11 / 0.906 | 13 / 0.565 | 2.1 / 0.054 | 0 / 0.000 | 105 / 1.721 | | 9.5 / 0.268 | | | 0.04 | | | | 22 | 95 | 9 | 2 | | USGS |
| May 19 0830 | Est. 50 | 62 | 9.4 | 95 | 319 | 7.6 | 39 / 1.946 | 5.3 / 0.434 | 20 / 0.870 | 2.8 / 0.072 | 0 / 0.000 | 123 / 2.016 | 36 / 0.749 | 16 / 0.451 | 0.2 / 0.003 | 0.4 / 0.021 | 0.0 | 22 | $PO_4$ 0.05; (a) | 203[b] | 26 | 119 | 18 | 2 | | USGS |
| Jun 23 0830 | Est. 20 | 68 | 8.7 | 95 | 460 | 7.5 | 45 / 2.246 | 12 / 0.974 | 31 / 1.348 | 3.1 / 0.079 | 0 / 0.000 | 149 / 2.442 | | 34 / 0.959 | | | 0.04 | | | | 29 | 161 | 39 | 0.3 | | USGS |
| Jul 21 0840 | Est. 5 | 60 | 8.6 | 86 | 563 | 7.2 | 41 / 2.05 | 23 / 1.89 | 39 / 1.70 | 3.4 / 0.09 | 0 / 0.00 | 172 / 2.82 | | 46 / 1.30 | | | 0.04 | | | | 30 | 197 | 56 | 1 | | USGS |
| Aug 24 1620 | Est. 5 | 73 | 10.1 | 116 | 667 | 7.7 | 63 / 3.14 | 19 / 1.58 | 47 / 2.04 | 3.2 / 0.08 | 0 / 0.00 | 206 / 3.38 | | 58 / 1.64 | | | 0.09 | | | | 30 | 236 | 67 | 1 | | USGS |
| Sep 22 0900 | Est. 1 | 57 | 6.2 | 60 | 675 | 7.0 | 64 / 3.19 | 20 / 1.65 | 45 / 1.96 | 4.4 / 0.11 | 0 / 0.00 | 202 / 3.31 | 99 / 2.06 | 56 / 1.58 | 0.0 / 0.00 | 0.5 / 0.03 | 0.05 | 24 | Fe 0.02; Al 0.07; (a) | 413[b] | 28 | 242 | 76 | 0.3 | | USGS |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 23 0920 | Est. [illegible] | 46 | 9.0 | 75 | 678 | 7.0 | 65 / 3.24 | 19 / 1.57 | 53 / 2.31 | 4.0 / 0.10 | 0 / 0.00 | 194 / 3.18 | | 62 / 1.75 | | | 0.06 | | | | 32 | 240 | 81 | 1 | | USGS |
| Dec 19 1700 | No Record | 58 | 9.2 | 90 | 556 | 7.2 | 52 / 2.59 | 16 / 1.33 | 40 / 1.74 | 3.5 / 0.09 | 0 / 0.00 | 162 / 2.66 | | 47 / 1.33 | | | 0.24 | | | | 30 | 196 | 63 | 1 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | **Carmel River near Carmel** | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 23 1550 | Est 500+ | 55 | 10.4 | 98 | 243 | 7.4 | 22 / 1.098 | 7.3 / 0.602 | 15 / 0.652 | 2.2 / 0.056 | 0 / 0.000 | 90 / 1.475 | | 16 / 0.451 | | | 0.05 | | | | 27 | 85 | 11 | 60 | | USGS |
| Feb 14 1610 | Est 35 | 51 | 11.2 | 100 | 275 | 7.3 | 26 / 1.297 | 8.5 / 0.695 | 17 / 0.740 | 2.0 / 0.051 | 0 / 0.000 | 102 / 1.672 | | 16 / 0.451 | | | 0.03 | | | | 27 | 100 | 16 | 3 | | USGS |
| Mar 19 1630 | Est 35 | 54 | 11.3 | 105 | 288 | 7.0 | 26 / 1.297 | 9.8 / 0.803 | 18 / 0.783 | 2.5 / 0.064 | 0 / 0.000 | 111 / 1.819 | | 14 / 0.395 | | | 0.03 | | | | 27 | 105 | 14 | 6 | | USGS |
| Apr 17 1050 | Est 25 | 57 | 10.8 | 104 | 325 | 7.3 | 28 / 1.397 | 11 / 0.943 | 19 / 0.826 | 2.3 / 0.059 | 0 / 0.000 | 126 / 2.065 | | 18 / 0.508 | | | 0.05 | | | | 26 | 117 | 14 | .3 | | USGS |
| May 16 1515 | Est 40 | 69 | 11.7 | 129 | 362 | 7.6 | 34 / 1.697 | 13 / 1.063 | 23 / 1.000 | 2.6 / 0.067 | 0 / 0.000 | 130 / 2.131 | 48 / 0.999 | 23 / 0.649 | 0.0 / 0.000 | 0.4 / 0.021 | 0.09 | 21 | Fe 0.01; Cu 0.01; Zn 0.01; $PO_4$ 0.00 Al 0.07 (a) | 229[b] | 26 | 138 | 31 | 8 | | USGS |
| June 20 1545 | Est 20 | 72 | 11.4 | 130 | 424 | 7.9 | 39 / 1.946 | 14 / 1.174 | 28 / 1.218 | 3.0 / 0.077 | 0 / 0.000 | 143 / 2.344 | | 30 / 0.846 | | | 0.00 | | | | 28 | 156 | 39 | 1 | | USGS |
| July 26 0740 | Est 20 | 64 | 7.1 | 74 | 555 | 7.3 | 51 / 2.54 | 19 / 1.53 | 38 / 1.65 | 3.5 / 0.09 | 0 / 0.00 | 168 / 2.75 | | 43 / 1.21 | | | 0.12 | | | | 28 | 204 | 66 | 0.8 | | USGS |
| Aug 22 1550 | Est 6 | 73 | 16.4 | 188 | 586 | 8.0 | 58 / 2.89 | 16 / 1.35 | 42 / 1.83 | 3.7 / 0.09 | 3 / 0.10 | 153 / 2.51 | | 51 / 1.44 | | | 0.02 | | | | 30 | 212 | 82 | 0.8 | | USGS |
| Sept 13 1330 | Est 4 | 68 | 15.7 | 171 | 613 | 8.1 | 58 / 2.89 | 21 / 1.70 | 46 / 2.00 | 3.7 / 0.09 | 0 / 0.00 | 172 / 2.82 | 102 / 2.12 | 57 / 1.61 | 0.2 / 0.00 | 0.3 / 0.02 | 0.00 | 24 | Al 0.12; Cu 0.01; (a) Zn 0.01 | 397[b] | 30 | 229 | 88 | 0.8 | | USGS |
| Oct 10 1615 | Est 2 | 66 | 12.9 | 137 | 621 | 8.1 | 51 / 2.54 | 23 / 1.87 | 44 / 1.91 | 3.7 / 0.09 | 0 / 0.00 | 178 / 2.92 | | 58 / 1.64 | | | 0.00 | | | | 30 | 221 | 75 | 0.4 | | USGS |
| Nov 15 1640 | Est 10 | 52 | 9.4 | 85 | 635 | 7.1 | 60 / 2.99 | 20 / 1.65 | 41 / 1.78 | 3.8 / 0.10 | 0 / 0.00 | 183 / 3.00 | | 54 / 1.52 | | | 0.00 | | | | 27 | 232 | 82 | 2.8 | | USGS |
| Dec 18 0845 | Est 7 | 46 | 10.0 | 84 | 616 | 7.3 | 56 / 2.79 | 21 / 1.69 | 43 / 1.87 | 3.7 / 0.09 | 0 / 0.00 | 180 / 2.95 | | 52 / 1.47 | | | 0.00 | | | | 29 | 224 | 76 | 0.4 | median 2.3 minimum .045 – maximum 620 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Pajaro River near Chittenden** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1530 | 43 | 45 | 11.4 | 94 | 917 | 7.8 | 54 / 2.69 | 41 / 3.35 | 85 / 3.70 | 2.6 / 0.07 | 0 / 0.00 | 271 / 4.44 | | 72 / 2.03 | | | 0.51 | | | | 38 | 302 | 80 | 4 | | USGS |
| Feb 17 1500 | 7.8 | 60 | 10.5 | 104 | 1400 | 8.2 | 76 / 3.79 | 64 / 5.25 | 144 / 6.26 | 3.8 / 0.10 | 0 / 0.00 | 404 / 6.62 | | 133 / 3.75 | | | 1.0 | | | | 41 | 452 | 121 | 1 | | USGS |
| Mar 21 1500 | 7.3 | 60 | 11.0 | 110 | 1130 | 8.2 | 72 / 3.59 | 52 / 4.25 | 107 / 4.65 | 3.0 / 0.08 | 0 / 0.00 | 357 / 5.85 | | 105 / 2.96 | | | 0.81 | | | | 37 | 392 | 99 | 2 | | USGS |
| Apr 25 1430 | 22 | 59 | 8.2 | 80 | 899 | 8.1 | 51 / 2.54 | 43 / 3.56 | 83 / 3.61 | 2.5 / 0.06 | 0 / 0.00 | 287 / 4.70 | | 65 / 1.83 | | | 0.57 | | | | 37 | 305 | 70 | 7 | | USGS |
| May 18 1540 | 3.2 | 72 | 6.9 | 78 | 1500 | 8.1 | 86 / 4.29 | 65 / 5.35 | 146 / 6.35 | 5.0 / 0.13 | 6 / 0.20 | 448 / 7.34 | 244 / 5.08 | 147 / 4.15 | 0.3 / 0.00 | 0.3 / 0.02 | 1.2 | 16 | $PO_4$ 0.35; (a) | 938[b] | 36 | 482 | 105 | 7 | | USGS |
| Jun 22 1315 | 2.0 | 67 | 9.4 | 101 | 1900 | 7.8 | 149 / 7.44 | 51 / 4.22 | 235 / 10.22 | 4.0 / 0.10 | 0 / 0.00 | 536 / 8.78 | | 217 / 6.12 | | | 1.2 | | | | 46 | 583 | 143 | 1 | | USGS |
| Jul 20 1515 | 0.4 | 64 | 10.0 | 105 | 1920 | 7.6 | 91 / 4.54 | 91 / 7.46 | 224 / 9.74 | 5.0 / 0.13 | 9 / 0.30 | 537 / 8.80 | | 210 / 5.92 | | | 1.1 | | | | 45 | 600 | 143 | 1 | | USGS |
| Aug 24 1430 | 1.4 | 61 | 10.3 | 104 | 1850 | 8.0 | 89 / 4.44 | 94 / 7.74 | 200 / 8.70 | 3.8 / 0.10 | 0 / 0.00 | 577 / 9.46 | | 190 / 5.36 | | | 0.92 | | | | 41 | 609 | 136 | 2 | | USGS |
| Sep 21 1545 | 0.9* | 60 | 9.3 | 93 | 1890 | 7.8 | 84 / 4.19 | 87 / 7.17 | 217 / 9.44 | 3.8 / 0.10 | 0 / 0.00 | 586 / 9.60 | 296 / 6.16 | 191 / 5.39 | 2.5 / 0.04 | 0.6 / 0.03 | 0.98 | 21 | Al 0.24; (a) | 1190[b] | 45 | 568 | 87 | 1 | | USGS |
| Oct 19 1640 | 0.8 | 59 | 8.7 | 85 | 1820 | 7.6 | 81 / 4.04 | 77 / 6.37 | 217 / 9.44 | 4.4 / 0.11 | 7 / 0.23 | 590 / 9.67 | | 194 / 5.47 | | | 1.1 | | | | 47 | 520 | 25 | 3 | | USGS |
| Nov 22 1515 | 0.8* | 48 | 9.8 | 84 | 1720 | 7.3 | 81 / 4.04 | 66 / 5.41 | 228 / 9.92 | 4.4 / 0.11 | 19 / 0.63 | 565 / 9.26 | | 209 / 5.89 | | | 1.1 | | | | 51 | 472 | 0 | 2 | | USGS |
| Dec 19 1530 | 3.5 | 56 | 7.8 | 74 | 1940 | 7.4 | 90 / 4.49 | 71 / 5.83 | 244 / 10.61 | 5.6 / 0.14 | 0 / 0.00 | 563 / 9.23 | | 285 / 8.04 | | | 1.9 | | | | 50 | 516 | 54 | 5 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

* Not Revised

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analyzed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Fajaro River near Chittenden** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 23 1415 | 1,440 | 55 | 9.7 | 91 | 422 | 7.8 | 28 / 1.397 | 17 / 1.403 | 29 / 1.262 | 2.6 / 0.067 | 0 / 0.000 | 158 / 2.590 | | 23 / 0.649 | | | 0.35 | | | | 31 | 140 | 10 | 1600 | | USGS |
| Feb 14 1440 | 192 | 53 | 10.1 | 93 | 628 | 7.4 | 54 / 2.69 | 25 / 2.04 | 42 / 1.83 | 2.0 / 0.05 | 4 / 0.13 | 220 / 3.61 | | 35 / 0.99 | | | 0.26 | | | | 28 | 236 | 49 | 25 | | USGS |
| Mar 20 1010 | 56 | 56 | 10.0 | 95 | 904 | 7.3 | 67 / 3.34 | 46 / 3.80 | 63 / 2.74 | 2.6 / 0.07 | 0 / 0.00 | 292 / 4.79 | | 60 / 1.69 | | | 0.56 | | | | 28 | 357 | 118 | 40 | | USGS |
| Apr 17 1300 | 24 | 61 | 9.0 | 91 | 1,130 | 7.4 | 75 / 3.74 | 56 / 4.58 | 92 / 4.00 | 3.5 / 0.09 | 0 / 0.00 | 152 / 2.49 | | 80 / 2.26 | | | 0.63 | | | | 32 | 416 | 291 | 15 | | USGS |
| May 16 1345 | 18 | 70 | 8.0 | 89 | 1,310 | 7.4 | 93 / 4.64 | 70 / 5.76 | 111 / 4.83 | 3.1 / 0.08 | 0 / 0.00 | 378 / 6.20 | 304 / 6.33 | 88 / 2.48 | 2.9 / 0.05 | 0.0 / 0.00 | 0.68 | 20 | Al 0.21; Zn 0.01; $PO_4$ 0.15; (a) | 879[b] | 32 | 520 | 210 | 5 | | USGS |
| June 20 1400 | 6.1 | 70 | 9.8 | 109 | 1,540 | 7.5 | 70 / 3.49 | 84 / 6.87 | 164 / 7.13 | 4.0 / 0.10 | 0 / 0.00 | 459 / 7.52 | | 144 / 4.06 | | | 0.96 | | | | 41 | 518 | 142 | 1 | | USGS |
| July 25 1315 | 6.5 | 67 | 8.6 | 93 | 1,700 | 7.7 | 91 / 4.54 | 88 / 7.26 | 181 / 7.87 | 5.0 / 0.13 | 0 / 0.00 | 520 / 9.51 | | 155 / 4.37 | | | 1.1 | | | | 40 | 590 | 114 | 1 | | USGS |
| Aug 22 1410 | 4.3 | 72 | 9.0 | 102 | 1,570 | 7.5 | 83 / 4.14 | 77 / 6.34 | 168 / 7.31 | 5.6 / 0.14 | 0 / 0.00 | 550 / 9.01 | | 156 / 4.40 | | | 0.83 | | | | 41 | 524 | 73 | 0.4 | | USGS |
| Sept 13 1130 | 3.1 | 62 | 10.0 | 102 | 1,630 | 7.9 | 86 / 4.29 | 82 / 6.75 | 195 / 8.48 | 5.8 / 0.15 | 0 / 0.00 | 569 / 9.33 | 230 / 4.79 | 175 / 4.94 | 0.9 / 0.01 | 0.6 / 0.03 | 0.93 | 24 | Fe 0.01; Al 0.26; Cu 0.06; Zn 0.01; $PO_4$ 1.0; (a) | 1,080[b] | 43 | 552 | 85 | 2 | | USGS |
| Oct 11 0940 | 2.7 | 60 | 9.1 | 91 | 1,740 | 7.8 | 84 / 4.19 | 76 / 6.29 | 206 / 8.96 | 5.6 / 0.14 | 0 / 0.00 | 605 / 9.92 | | 196 / 5.53 | | | 1.0 | | | | 46 | 524 | 28 | 0.7 | | USGS |
| Nov 16 1040 | 2.8 | 50 | 10.5 | 93 | 1,710 | 7.8 | 76 / 3.79 | 76 / 6.21 | 200 / 8.70 | 5.2 / 0.13 | 0 / 0.00 | 572 / 9.38 | | 200 / 5.64 | | | 0.95 | | | | 46 | 500 | 31 | 3.8 | | USGS |
| Dec 17 1345 | 4.1 | 51 | 14.0 | 125 | 1,400 | 8.3 | 38 / 1.90 | 91 / 7.50 | 145 / 6.31 | 4.4 / 0.11 | 0 / 0.00 | 522 / 8.56 | | 163 / 4.60 | | | 0.89 | | | | 40 | 470 | 42 | 2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH),

# TABLE 12
## ANALYSES OF SURFACE WATER

[illegible] 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| San Lorenzo River at Big Tree (near Felton) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1945 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1:00 | 1,100 | 45 | 11.5 | 95 | 162 | 7.2 | [illegible] | 1.0 | 10 | [illegible] | 0 | 52 | | 6.5 | | | 0.30 | | | | 26 | 59 | 15 | 350 | | [illegible] |
| Feb 19 [illegible] | 78 | 51 | 11.4 | [illegible] | [illegible] | 7.3 | [illegible] | 11 | 21 | 1.7 | 0 | [illegible] | | [illegible] | | | [illegible] | | | | [illegible] | 145 | 42 | 0.6 | | [illegible] |
| Mar [illegible] [illegible] | 5[illegible] | [illegible] | [illegible] | 111 | [illegible] | [illegible] | [illegible] | 8.9 | [illegible] | [illegible] | 0 | [illegible] | | 0 | | | [illegible] | | | | [illegible] | 13[illegible] | [illegible] | 1 | | [illegible] |
| Apr [illegible] [illegible] | 182 | [illegible] | [illegible] | [illegible] | [illegible] | 7.4 | [illegible] | [illegible] | 17 | 1.6 | [illegible] | [illegible] | | 14 | | | 0.10 | | | | [illegible] | 102 | [illegible] | 28 | | [illegible] |
| May 1[illegible] [illegible] | 51 | 65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 130 | 51 | 13 | [illegible] | 0.1 | [illegible] | [illegible] | Fe 0.005; $PO_4$ 0.35; (a) | 234[b] | [illegible] | 1[illegible] | [illegible] | 5 | | [illegible] |
| [illegible] [illegible] | [illegible] | 57 | [illegible] | [illegible] | 17[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1.[illegible] | [illegible] | 140 | | 1 | | | [illegible] | | | | [illegible] | 134 | 19 | 1 | | [illegible] |
| Jul 21 1120 | 21 | [illegible] | 1[illegible].5 | 110 | [illegible] | 7.4 | [illegible] | [illegible] | [illegible] | 1.0 | 0 | 142 | | [illegible] | | | 0.13 | | | | 25 | 131 | 15 | 3 | | [illegible] |
| [illegible] [illegible] | 1[illegible] | [illegible] | [illegible] | 95 | [illegible] | 7.4 | [illegible] | 7.6 | [illegible] | 1.6 | 0 | 134 | | [illegible] | | | 0.06 | | | | 26 | 121 | 11 | 4 | | [illegible] |
| Sep 15 1140 | 15. | 57 | [illegible] | [illegible] | [illegible] | 7.2 | [illegible] | 6.4 | [illegible] | 1.6 | 0 | 130 | 28 | [illegible] | [illegible] | [illegible] | 0.02 | 28 | Fe 0.05; Al 0.03; Cu 0.01; (a) | 211[b] | 27 | 119 | 12 | [illegible] | | [illegible] |
| [illegible] [illegible] 1345 | 17 | [illegible] | [illegible] | 114 | [illegible] | 7.4 | [illegible] | [illegible] | [illegible] | 1.6 | 0 | 1.1 | | [illegible] | | | [illegible] | | | | 27 | 134 | 18 | [illegible] | | [illegible] |
| [illegible] [illegible] [illegible] | 21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | | | 0.16 | | | | [illegible] | 132 | [illegible] | 1. | | [illegible] |
| [illegible] [illegible] | 1,320 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11 | [illegible] | [illegible] | [illegible] | | [illegible] | | | [illegible] | | | | 27 | 60 | 21 | [illegible] | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 42 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .19 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum .400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Lorenzo River at Big Trees (near Felton) | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 24 1230 | 603 | 49 | 11.1 | 97 | 274 | 7.1 | 31 / 1.547 | 6.0 / 0.493 | 12 / 0.522 | 2.1 / 0.054 | 0 / 0.000 | 93 / 1.524 | | 10 / 0.282 | | | 0.09 | | | | 20 | 102 | 26 | 40 | | USGS |
| Feb 15 1120 | 203 | 45 | 12.7 | 105 | 320 | 7.1 | 37 / 1.846 | 8.2 / 0.674 | 16 / 0.696 | 1.7 / 0.043 | 0 / 0.000 | 119 / 1.950 | | 14 / 0.395 | | | 0.05 | | | | 21 | 126 | 28 | 10 | | USGS |
| Mar 19 1320 | 158 | 51 | 11.3 | 101 | 339 | 7.0 | 38 / 1.896 | 9.5 / 0.784 | 17 / 0.740 | 2.5 / 0.064 | 0 / 0.000 | 125 / 2.049 | | 14 / 0.395 | | | 0.16 | | | | 21 | 134 | 32 | 10 | | USGS |
| Apr 16 1445 | 97 | 55 | 11.2 | 105 | 344 | 7.0 | 38 / 1.896 | 8.6 / 0.704 | 18 / 0.783 | 1.9 / 0.049 | 0 / 0.000 | 138 / 2.262 | | 15 / 0.423 | | | 0.07 | | | | 23 | 130 | 17 | 6 | | USGS |
| May 17 0915 | 76 | 58 | 10.2 | 100 | 352 | 7.5 | 41 / 2.046 | 9.9 / 0.814 | 19 / 0.826 | 2.0 / 0.051 | 0 / 0.000 | 139 / 2.278 | 47 / 0.979 | 18 / 0.508 | 0.1 / 0.002 | 0.2 / 0.011 | 0.10 | 24 | Fe 0.01; Al 0.05; Cu 0.02; Zn 0.01; $PO_4$ 0.30; (a) | 229[b] | 22 | 143 | 29 | 3 | | USGS |
| June 21 0955 | 50 | 63 | 10.5 | 108 | 357 | 7.5 | 41 / 2.046 | 9.4 / 0.774 | 20 / 0.870 | 2.0 / 0.051 | 0 / 0.000 | 144 / 2.360 | | 18 / 0.508 | | | 0.00 | | | | 23 | 141 | 23 | 5 | | USGS |
| July 26 1050 | 33 | 66 | 10.7 | 114 | 351 | 7.7 | 42 / 2.096 | 8.1 / 0.664 | 21 / 0.914 | 2.2 / 0.056 | 0 / 0.000 | 147 / 2.409 | | 20 / 0.564 | | | 0.18 | | | | 25 | 138 | 17 | 1 | | USGS |
| Aug 23 0940 | 24 | 64 | 10.1 | 105 | 349 | 7.2 | 40 / 1.996 | 8.6 / 0.704 | 21 / 0.914 | 2.3 / 0.059 | 0 / 0.000 | 145 / 2.377 | | 21 / 0.592 | | | 0.00 | | | | 25 | 135 | 16 | 0.8 | | USGS |
| Sept 14 0930 | 21 | 58 | 10.5 | 102 | 343 | 7.7 | 42 / 2.096 | 6.4 / 0.524 | 20 / 0.870 | 2.0 / 0.051 | 0 / 0.000 | 144 / 2.360 | 33 / 0.687 | 21 / 0.592 | 0.3 / 0.005 | 0.2 / 0.011 | 0.09 | 26 | Al 0.05; Cu 0.02; Zn 0.01; $PO_4$ 0.70; (a) | 222[b] | 25 | 131 | 13 | 2 | | USGS |
| Oct 10 1330 | 26 | 60 | 11.2 | 112 | 374 | 7.2 | 42 / 2.096 | 7.9 / 0.648 | 23 / 1.000 | 2.0 / 0.051 | 0 / 0.000 | 153 / 2.508 | | 24 / 0.677 | | | 0.04 | | | | 26 | 137 | 12 | 1.0 | | USGS |
| Nov 15 1415 | 25 | 49 | 13.2 | 115 | 356 | 7.0 | 40 / 2.00 | 8.8 / 0.72 | 22 / 0.96 | 1.8 / 0.05 | 0 / 0.00 | 145 / 2.38 | | 23 / 0.65 | | | 0.10 | | | | 26 | 136 | 17 | 2.0 | | USGS |
| Dec 18 1210 | 25 | 44 | 14.1 | 115 | 365 | 7.9 | 41 / 2.05 | 8.1 / 0.67 | 22 / 0.96 | 1.7 / 0.04 | 0 / 0.00 | 150 / 2.46 | | 23 / 0.65 | | | 0.00 | | | | 26 | 136 | 13 | 2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .5 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Salinas River near Spreckels** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 10 1200 | | | 0.6 | | 1470 | 7.4 | 96 / 4.79 | 45 / 3.69 | 129 / 5.61 | 28 / 0.72 | 0 / 0.00 | 624 / 10.23 | | 125 / 3.53 | | | 0.34 | | | | 38 | 424 | 0 | 0.8 | | [illegible] |
| Mar | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen | | Specific conductance (micromhos at 25°C) | pH | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ | | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ppm | %Sat | | | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | | | Total ppm | N.C. ppm | | | |
| | | | | | | | | | | | Salinas River near Spreckels | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| June | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| July | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH),

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## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Salinas River at Paso Robles | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 24 1430 | 34 | 59 | 8.4 | 83 | 585 | 7.8 | | | | | 0/0.00 | 260/4.26 | | 27/0.76 | | | 0.04 | | | | 20 | 279 | | 5- | | DWR |
| Feb 9 1050 | 31 | 50 | 10.6 | 93 | 649 | 8.0 | | | | | 0/0.00 | 266/4.36 | | 35/0.99 | | | 0.14 | | | | 21 | 308 | | 5- | | DWR |
| Mar 7 1600 | 64 | 62 | 8.2 | 84 | 652 | 7.8 | | | | | 0/0.00 | 244/4.00 | | 29/0.82 | | | 0.06 | | | | 20 | 275 | | 8 | | DWR |
| Apr 7 1830 | 9.0 | 50 | 9.4 | 83 | 758 | 7.8 | | | | | 0/0.00 | 305/5.00 | | 46/1.30 | | | 0.36 | | | | 24 | 339 | | 5- | | DWR |
| May 9 1645 | 42 | 75 | 7.8 | 91 | 648 | 7.9 | 79/3.94 | 23/1.89 | 37/1.61 | 2.0/0.05 | 0/0.00 | 281/4.60 | 106/2.21 | 33/0.93 | 1.0/0.02 | 0.4/0.02 | 0.14 | 25 | $CrO_3$ 0.0; (a) | 457 | 21 | 292 | 62 | 5- | | DWR |
| June 8 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| July 8 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept 23 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 6 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 1.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{mo}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Salinas River at Paso Robles | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0840 | Est 30 | 48 | 10 | 86 | 1213 | 7.8 | | | | | 0 / 0.00 | 246 / 4.03 | | 32 / 0.90 | | | 0.80 | | | | 19 | 527 | | -5 | | DWR |
| Feb 9 0700 | Est 50 | 46 | 9.8 | 83 | 696 | 7.4 | | | | | 0 / 0.00 | 246 / 4.03 | | 31 / 0.87 | | | 0.38 | | | | 18 | 290 | | -5 | | DWR |
| Mar 6 1630 | 20 | 57 | 7.4 | 71 | 715 | 8.2 | | | | | 0 / 0.00 | 264 / 4.33 | | 33 / 0.93 | | | 0.24 | | | | 19 | 311 | | -5 | | DWR |
| Apr 11 1100 | 10 | 50 | 8.2 | 72 | 976 | 8.0 | | | | | 0 / 0.00 | 305 / 5.00 | | 41 / 1.16 | | | 0.10 | | | | 18 | 433 | | 16 | | DWR |
| May 8 1200 | 50 | 61 | 10 | 101 | 714 | 8.4 | 82 / 4.09 | 34 / 2.79 | 45 / 1.96 | 7.2 / 0.184 | 0 / 0.00 | 303 / 4.96 | 130 / 2.71 | 39 / 1.10 | 0.5 / 0.008 | 0.5 / 0.026 | 0.16 | 25 | $PO_4$ 0.5; (a) | 516[b] | 22 | 344 | 96 | 15 | | DWR |
| June 7 1400 | .5 | 79 | 8.2 | 100 | 942 | 8.0 | | | | | 0 / 0.00 | 317 / 5.20 | | 50 / 1.41 | | | 0.22 | | | | 22 | 384 | | -5 | | DWR |
| July 3 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 43 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 240 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Santa Ynez River below Gibraltar Dam | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 25 1130 | 0.2 | 50 | 8.0 | 71 | 1230 | 7.5 | | | | | 0/0.00 | 284/4.66 | | 32/0.90 | | | 0.66 | | | | 20 | 553 | | 5- | | DWR |
| Feb 28 1200 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar 22 0900 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 7 0800 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun 8 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 7 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 23 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 6 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Santa Ynez River below Gibraltar Dam | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1700 | | 50 | 8.4 | 74 | 696 | 8.0 | | | | | 0 / 0.00 | 242 / 3.97 | | 30 / 0.85 | | | 0.15 | | | | 18 | 296 | | -5 | | USGS |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Discontinued | | | | | | | | | | | | | | | | | | | | | | | | median .68 minimum .06 maximum 1.3 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR) as indicated.

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Santa Ynez River below Los Laureles Canyon | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 24 1000 | 1.4 | 50 | 6.0 | 53 | 1123 | 7.4 | | | | | 0 / 0.00 | 346 / 5.67 | | 26 / 0.73 | | | 0.20 | | | | 15 | 593 | | 5- | | Lab |
| Feb 28 0855 | 20 | 54 | 9.2 | 86 | 1235 | 8.0 | | | | | 0 / 0.00 | 293 / 4.80 | | 29 / 0.82 | | | 0.30 | | | | 17 | 590 | | 5- | | Lab |
| Mar 22 1130 | 3.8 | 59 | 9.4 | 93 | 1282 | 7.8 | | | | | 0 / 0.00 | 295 / 4.84 | | 30 / 0.85 | | | 0.36 | | | | 17 | 611 | | 5- | | Lab |
| Apr 7 1030 | 1.0 | 57 | 7.0 | 67 | 1277 | 7.4 | | | | | 0 / 0.00 | 307 / 5.03 | | 30 / 0.85 | | | 0.76 | | | | 15 | 625 | | 5- | | Lab |
| May 10 1630 | 7 | 77 | 13.0 | 155 | 1091 | 8.2 | 132 / 6.59 | 53 / 4.36 | 56 / 2.44 | 2.1 / 0.05 | 10 / 0.32 | 246 / 4.04 | 410 / 8.58 | 26 / 0.73 | 1.0 / 0.02 | 0.6 / 0.03 | 0.44 | 15 | | 898 | 18 | 548 | | 5- | | Lab |
| Jun 8 0945 | 0.2 | 66 | 4.8 | 51 | 1220 | 7.4 | | | | | 0 / 0.00 | 325 / 5.33 | | 29 / 0.82 | | | 0.62 | | | | 16 | 598 | | 5- | | Lab |
| Jul 7 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 23 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 5.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.1 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | Santa Ynez River below Los Laureles Canyon | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1500 | Est 0.5 | 63 | 8.0 | 82 | 1270 | 7.6 | | | | | 0 / 0.00 | 332 / 5.44 | | 29 / 0.82 | | | 0.39 | | | | 16 | 594 | | -5 | | DWR |
| Feb 9 1045 | 36 | 54 | 9.6 | 80 | 1037 | 8.0 | | | | | 7 / 0.23 | 244 / 4.00 | | 21 / 0.59 | | | 0.72 | | | | 18 | 462 | | -5 | | DWR |
| Mar 7 0900 | 7.6 | 48 | 9.8 | 85 | 1161 | 8.0 | | | | | 0 / 0.00 | 285 / 4.67 | | 28 / 0.79 | | | 0.84 | | | | 18 | 529 | | -5 | | DWR |
| Apr 12 1000 | 0.4 | 52 | 7.4 | 71 | 980 | 8.0 | | | | | 0 / 0.00 | 244 / 4.00 | | 25 / 0.70 | | | 0.30 | | | | 18 | 437 | | -5 | | DWR |
| May 9 1000 | 72 | 57 | 8.6 | 83 | 485 | 8.0 | 48 / 2.40 | 25 / 2.06 | 23 / 1.00 | 2.6 / 0.067 | 0 / 0.00 | 149 / 2.44 | 130 / 2.70 | 13 / 0.37 | 1.3 / 0.021 | 0.4 / 0.021 | 0.20 | 15 | $PO_4$ 0.25; (a) | 333[b] | 18 | 223 | 101 | 1400 | | DWR |
| June 8 0900 | 4.1 | 64 | 7.4 | 77 | 1091 | 8.0 | | | | | 0 / 0.00 | 278 / 4.56 | | 26 / 0.73 | | | 0.42 | | | | 17 | 517 | | -5 | | DWR |
| July 3 0800 | 0.8 | 63 | 5.6 | 57 | 1119 | 8.0 | | | | | 0 / 0.00 | 344 / 5.64 | | 25 / 0.71 | | | 0.30 | | | | 16 | 541 | | -5 | | DWR |
| Aug | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH),

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Santa Ynez River at Solvang** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 24 1100 | 9.0 | 55 | 7.2 | 68 | 1058 | 8.2 | | | | | 0/0.00 | 433/7.10 | | 44/1.24 | | | 0.20 | | | | 17 | 551 | | 5- | | DWR |
| Feb 28 1010 | 12 | 55 | 10.0 | 94 | 1143 | 7.8 | | | | | 0/0.00 | 398/6.52 | | 46/1.30 | | | 0.24 | | | | 19 | 526 | | 5- | | DWR |
| Mar 22 1030 | 16. | 59 | 11.8 | 116 | 1129 | 8.0 | | | | | 19/0.63 | 322/5.28 | | 43/1.21 | | | 0.32 | | | | 18 | 526 | | 5- | | DWR |
| Apr 7 0940 | 4.5 | 62 | 10.6 | 108 | 1153 | 8.0 | | | | | 14/0.47 | 346/5.67 | | 42/1.18 | | | 0.36 | | | | 18 | 542 | | 5- | | DWR |
| May 10 1930 | Est 15 | 75 | 12.1 | 142 | 998 | 8.4 | 106/5.29 | 62/5.10 | 56/2.44 | 2.8/0.07 | 12/0.40 | 339/5.56 | 277/5.78 | 43/1.21 | 0.0/0.0 | 0.5/0.03 | 0.34 | 30 | | 812 | 19 | 520 | 222 | 5- | | DWR |
| Jun 8 0930 | 3.0 | 66 | 5.4 | 58 | 1185 | 7.6 | | | | | 0/0.00 | 386/6.33 | | 43/1.21 | | | 0.30 | | | | 19 | 546 | | 5- | | DWR |
| Jul 7 1700 | 1 | 75 | 6.2 | 73 | 1054 | 7.6 | | | | | 2/0.07 | 370/6.06 | | 51/1.44 | | | 0.31 | | | | 19 | 528 | | 5- | | DWR |
| Aug 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 23 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 9 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 6 1600 | Est 2.0 | 61 | 6.2 | 62 | 1237 | 8.0 | | | | | 0/0.00 | 378/6.20 | | 48/1.35 | | | 0 | | | | 18 | 590 | | 5- | median 23 minimum 2.3 maximum 700 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/000 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Santa Ynez River at Solvang** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1400 | Est 10 | 59 | 13.0 | 128 | 1192 | 8.2 | | | | | 12 / 0.40 | 371 / 6.08 | | 50 / 1.41 | | | 0.21 | | | | 17 | 546 | | -5 | | DWR |
| Feb 9 1000 | Est 36 | 54 | 11.8 | 108 | 1171 | 8.0 | | | | | 0 / 0.00 | 368 / 6.03 | | 47 / 1.32 | | | 0.60 | | | | 18 | 521 | | -5 | | DWR |
| Mar 7 0800 | 11.0 | 48 | 7.6 | 66 | 1155 | 8.2 | | | | | 0 / 0.00 | 386 / 6.33 | | 48 / 1.35 | | | 0.72 | | | | 19 | 521 | | -5 | | DWR |
| Apr 12 0800 | 30 | 52 | 9.2 | 83 | 441 | 8.2 | | | | | 0 / 0.00 | 144 / 2.36 | | 27 / 0.76 | | | 0.22 | | | | 25 | 162 | | 450 | | DWR |
| May 9 0900 | 26 | 57 | 8.2 | 79 | 855 | 8.4 | 92 / 4.59 | 49 / 4.03 | 48 / 2.09 | 7.0 / 0.179 | 0 / 0.00 | 317 / 5.20 | 215 / 4.48 | 37 / 1.04 | 1.0 / 0.016 | 0.6 / 0.032 | 0.26 | 25 | $PO_4$ 0.0 ; (a) | 634[b] | 19 | 431 | 171 | 100 | | DWR |
| June 8 0800 | 7.8 | 63 | 7.6 | 78 | 1114 | 8.0 | | | | | 0 / 0.00 | 373 / 6.11 | | 43 / 1.21 | | | 0.35 | | | | 18 | 521 | | -5 | | DWR |
| July 3 0700 | 1.4 | 64 | 5.8 | 61 | 1176 | 8.0 | | | | | 0 / 0.00 | 398 / 6.52 | | 46 / 1.30 | | | 0.23 | | | | 18 | 556 | | -5 | | DWR |
| Aug | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 14.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Soquel Creek at Soquel | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1230 | 330 | 45 | 11.5 | 95 | | 7.4 | Sample broken | | | | | | | | | | | | | | | | | | | |
| Feb 18 1010 | 21 | 50 | 12.3 | 108 | 642 | 8.1 | 69 / 3.44 | 20 / 1.66 | 40 / 1.74 | 3.4 / 0.09 | 3 / 0.10 | 206 / 3.38 | | 35 / 0.99 | | | 0.09 | | | | 25 | 255 | 81 | 0.8 | | USGS |
| Mar 22 1110 | 19 | 53 | 12.0 | 110 | 652 | 8.1 | 63 / 3.14 | 25 / 2.04 | 41 / 1.78 | 3.4 / 0.09 | 6 / 0.20 | 210 / 3.44 | | 38 / 1.07 | | | 0.20 | | | | 25 | 259 | 77 | 0.5 | | USGS |
| Apr 26 1040 | 49 | 51 | 10.5 | 97 | 470 | 8.1 | 48 / 2.395 | 16 / 1.281 | 27 / 1.174 | 2.6 / 0.067 | 0 / 0.00 | 166 / 2.721 | | 19 / 0.536 | | | 0.05 | | | | 24 | 184 | 48 | 20 | | USGS |
| May 19 1030 | 15 | 64 | 9.9 | 103 | 646 | 8.2 | 75 / 3.74 | 16 / 1.32 | 41 / 1.78 | 3.9 / 0.10 | 5 / 0.17 | 219 / 3.59 | 105 / 2.19 | 36 / 1.02 | 0.5 / 0.01 | 0.3 / 0.02 | 0.11 | 28 | $PO_4$ 0.25; (a) | 419[b] | 26 | 253 | 65 | 1 | | USGS |
| Jun 23 1100 | 7.7 | 65 | 10.9 | 114 | 728 | 7.8 | 78 / 3.89 | 20 / 1.62 | 47 / 2.04 | 4.6 / 0.12 | 5 / 0.17 | 239 / 3.92 | | 55 / 1.55 | | | 0.13 | | | | 27 | 276 | 72 | 0.6 | | USGS |
| Jul 21 1020 | 4.1 | 61 | 9.8 | 99 | 750 | 7.6 | 78 / 3.89 | 23 / 1.89 | 47 / 2.04 | 5.5 / 0.14 | 0 / 0.00 | 259 / 4.24 | | 60 / 1.69 | | | 0.10 | | | | 26 | 289 | 77 | 2 | | USGS |
| Aug 25 0815 | 2.6 | 58 | 9.5 | 93 | 748 | 7.8 | 75 / 3.74 | 24 / 1.98 | 48 / 2.09 | 4.7 / 0.12 | 0 / 0.00 | 262 / 4.29 | | 65 / 1.83 | | | 0.23 | | | | 26 | 286 | 71 | 20 | | USGS |
| Sep 22 1045 | 3.3 | 58 | 9.5 | 92 | 727 | 7.4 | 74 / 3.69 | 24 / 1.97 | 47 / 2.04 | 4.9 / 0.13 | 0 / 0.00 | 253 / 4.15 | 87 / 1.81 | 59 / 1.66 | 0.4 / 0.01 | 0.5 / 0.03 | 0.05 | 40 | Fe 0.03; Al 0.09; (a) | 462[b] | 26 | 283 | 76 | 0.8 | | USGS |
| Oct 20 1050 | 3.3 | 56 | 9.8 | 93 | 776 | 7.4 | 76 / 3.79 | 21 / 1.73 | 50 / 2.18 | 6.8 / 0.17 | 0 / 0.00 | 251 / 4.11 | | 72 / 2.03 | | | 0.09 | | | | 28 | 276 | 70 | 1 | | USGS |
| Nov 23 1045 | 4.5 | 45 | 10.2 | 84 | 908 | 7.3 | 83 / 4.14 | 28 / 2.34 | 73 / 3.18 | 5.8 / 0.15 | 3 / 0.10 | 258 / 4.23 | | 102 / 2.88 | | | 0.32 | | | | 32 | 324 | 108 | 3 | | USGS |
| Dec 20 1020 | 344 | 53 | 10.3 | 94 | 278 | 7.1 | 28 / 1.397 | 7.3 / 0.603 | 15 / 0.652 | 2.8 / 0.072 | 0 / 0.000 | 78 / 1.278 | | 12 / 0.338 | | | 0.18 | | | | 24 | 100 | 36 | 140 | median 56 minimum 2.3 maximum 2400 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) ppm / equivalents per million | Magnesium (Mg) ppm / equivalents per million | Sodium (Na) ppm / equivalents per million | Potassium (K) ppm / equivalents per million | Carbonate ($CO_3$) ppm / equivalents per million | Bicarbonate ($HCO_3$) ppm / equivalents per million | Sulfate ($SO_4$) ppm / equivalents per million | Chloride (Cl) ppm / equivalents per million | Nitrate ($NO_3$) ppm / equivalents per million | Fluoride (F) ppm / equivalents per million | Boron (B) ppm | Silica ($SiO_2$) ppm | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Soquel Creek at Soquel | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 24 1045 | 163 | 49 | 10.3 | 90 | 409 | 7.1 | 45 / 2.246 | 13 / 1.054 | 20 / 0.870 | 2.2 / 0.056 | 0 / 0.000 | 136 / 2.229 | | 13 / 0.367 | | | 0.10 | | | | 21 | 165 | 53 | 75 | | USGS |
| Feb 15 1000 | 49 | 51 | 12.6 | 112 | 543 | 7.2 | 62 / 3.09 | 17 / 1.38 | 30 / 1.30 | 2.8 / 0.07 | 2 / 0.07 | 184 / 3.02 | | 21 / 0.59 | | | 0.09 | | | | 20 | 224 | 70 | 40 | | USGS |
| Mar 19 1430 | 44 | 55 | 11.2 | 105 | 565 | 7.6 | 65 / 3.24 | 18 / 1.46 | 30 / 1.30 | 3.2 / 0.08 | 0 / 0.00 | 209 / 3.43 | | 24 / 0.68 | | | 0.16 | | | | 21 | 235 | 64 | 0.5 | | USGS |
| Apr 16 1800 | 28 | 62 | 9.6 | 98 | 595 | 7.2 | 63 / 3.14 | 19 / 1.58 | 34 / 1.48 | 3.4 / 0.09 | 0 / 0.00 | 219 / 3.59 | | 25 / 0.70 | | | 0.08 | | | | 24 | 236 | 56 | 5 | | USGS |
| May 17 0820 | 30 | 59 | 9.8 | 96 | 588 | 7.3 | 66 / 3.29 | 20 / 1.65 | 30 / 1.30 | 3.6 / 0.09 | 0 / 0.000 | 216 / 3.54 | 98 / 2.04 | 29 / 0.82 | 0.1 / 0.00 | 0.0 / 0.00 | 0.08 | 24 | Al 0.09; Cu 0.01; Zn 0.01; $PO_4$ 0.20 (a) | 377[b] | 21 | 247 | 70 | 25 | | USGS |
| June 21 0915 | 9.0 | 61 | 10.8 | 108 | 682 | 7.7 | 69 / 3.44 | 27 / 2.26 | 43 / 1.87 | 4.3 / 0.11 | 12 / 0.40 | 277 / 3.72 | | 44 / 1.24 | | | 0.12 | | | | 24 | 285 | 79 | 1 | | USGS |
| July 26 1000 | 8.0 | 63 | 9.8 | 101 | 722 | 7.7 | 76 / 3.79 | 25 / 2.02 | 45 / 1.96 | 4.8 / 0.12 | 0 / 0.00 | 258 / 4.23 | | 54 / 1.52 | | | 0.13 | | | | 25 | 290 | 78 | 0.8 | | USGS |
| Aug 23 0900 | 13 | 61 | 9.9 | 100 | 743 | 7.4 | 62 / 3.09 | 34 / 2.82 | 46 / 2.00 | 5.0 / 0.13 | 0 / 0.00 | 262 / 4.29 | | 60 / 1.69 | | | 0.06 | | | | 25 | 295 | 80 | 0.4 | | USGS |
| Sept 14 0845 | 4.5 | 58 | 9.8 | 96 | 755 | 7.7 | 83 / 4.14 | 27 / 2.22 | 48 / 2.09 | 4.7 / 0.12 | 0 / 0.00 | 263 / 4.31 | 100 / 2.08 | 65 / 1.83 | 0.1 / 0.00 | 0.3 / 0.02 | 0.10 | 36 | Fe 0.01; Al 0.08; Cu 0.02; Zn 0.01; $PO_4$ 0.45; (a) | 494[b] | 24 | 318 | 102 | 3 | | USGS |
| Oct 10 1440 | 2.5 | 66 | 9.8 | 105 | 777 | 7.4 | 75 / 3.74 | 25 / 2.04 | 50 / 2.18 | 4.8 / 0.12 | 0 / 0.00 | 260 / 4.26 | | 73 / 2.06 | | | 0.07 | | | | 27 | 289 | 76 | 0.4 | | USGS |
| Nov 15 1515 | 4.8 | 56 | 10.6 | 101 | 792 | 7.2 | 82 / 4.09 | 24 / 1.99 | 51 / 2.22 | 4.5 / 0.12 | 0 / 0.00 | 264 / 4.33 | | 70 / 1.97 | | | 0.00 | | | | 26 | 304 | 88 | 1.4 | | USGS |
| Dec 18 1115 | 7.4 | 47 | 12.3 | 104 | 777 | 7.9 | 79 / 3.94 | 28 / 2.28 | 53 / 2.31 | 4.3 / 0.11 | 0 / 0.00 | 249 / 4.08 | | 72 / 2.03 | | | 0.06 | | | | 27 | 311 | 107 | 1 | median 23 minimum 2.3 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Uvas Creek near Morgan Hill | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1430 | 22 | 45 | 12.0 | 100 | 366 | 7.8 | 39 / 1.946 | 18 / 1.464 | 12 / 0.522 | 0.6 / 0.015 | 0 / 0.000 | 186 / 3.048 | | 8.0 / 0.226 | | | 0.12 | | | | 13 | 170 | 17 | 0.3 | | USGS |
| Feb 17 1345 | 14 | 55 | 9.5 | 89 | 392 | 7.7 | 43 / 2.146 | 20 / 1.614 | 13 / 0.565 | 0.8 / 0.020 | 0 / 0.000 | 202 / 3.310 | | 6.0 / 0.169 | | | 0.15 | | | | 13 | 188 | 22 | 0.4 | | USGS |
| Mar 21 1400 | 12 | 54 | 9.5 | 90 | 388 | 7.6 | 37 / 1.846 | 23 / 1.894 | 13 / 0.565 | 0.8 / 0.020 | 0 / 0.000 | 206 / 3.376 | | 7.0 / 0.197 | | | 0.04 | | | | 13 | 187 | 18 | 0.3 | | USGS |
| Apr 25 1330 | 21 | 51 | 10.0 | 90 | 331 | 7.6 | 33 / 1.647 | 19 / 1.553 | 12 / 0.522 | 0.6 / 0.015 | 0 / 0.000 | 185 / 3.032 | | 4.7 / 0.133 | | | 0.05 | | | | 14 | 160 | 8 | 2 | | USGS |
| May 18 1440 | 7.8 | 65 | 7.5 | 79 | 388 | 7.8 | 51 / 2.545 | 14 / 1.135 | 14 / 0.609 | 1.3 / 0.033 | 0 / 0.000 | 213 / 3.491 | 32 / 0.666 | 5.5 / 0.155 | 0.3 / 0.005 | 0.2 / 0.011 | 0.09 | 19 | $PO_4$ 0.00; (a) | 242[b] | 14 | 184 | 9 | 1 | | USGS |
| Jun 22 1220 | 2.4 | 66 | 7.5 | 80 | 392 | 7.4 | 47 / 2.345 | 16 / 1.347 | 14 / 0.609 | 0.9 / 0.023 | 0 / 0.000 | 218 / 3.573 | | 6.0 / 0.169 | | | 0.01 | | | | 14 | 185 | 6 | 0.0 | | USGS |
| Jul 20 1430 | 0.5 | 66 | 6.7 | 72 | 432 | 7.2 | 39 / 1.946 | 25 / 2.034 | 15 / 0.652 | 1.2 / 0.031 | 0 / 0.000 | 238 / 3.900 | | 6.5 / 0.183 | | | 0.15 | | | | 14 | 199 | 4 | 0.8 | | USGS |
| Aug 24 1330 | 0.4 | 63 | 7.2 | 75 | 429 | 7.3 | 47 / 2.345 | 22 / 1.795 | 14 / 0.609 | 0.8 / 0.020 | 0 / 0.000 | 238 / 3.900 | | 8.5 / 0.240 | | | 0.15 | | | | 13 | 207 | 12 | 15 | | USGS |
| Sep 21 1450 | 0.2 | 62 | 6.7 | 68 | 441 | 7.2 | 13 / 0.649 | 42 / 3.471 | 15 / 0.652 | 1.0 / 0.026 | 0 / 0.000 | 235 / 3.851 | 35 / 0.729 | 7.5 / 0.212 | 0.4 / 0.006 | 0.1 / 0.005 | 0.15 | 26 | Al 0.08; Cu 0.02; (a) | 256[b] | 14 | 206 | 13 | 0.8 | | USGS |
| Oct 19 1550 | 0.2 | 62 | 8.4 | 85 | 441 | 7.2 | 49 / 2.445 | 21 / 1.695 | 15 / 0.652 | 0.9 / 0.023 | 0 / 0.000 | 238 / 3.901 | | 6.6 / 0.186 | | | 0.14 | | | | 14 | 207 | 12 | 2 | | USGS |
| Nov 22 1430 | 1.9 | 55 | 7.7 | 72 | 438 | 7.0 | 50 / 2.495 | 21 / 1.709 | 15 / 0.652 | 1.2 / 0.031 | 0 / 0.000 | 227 / 3.721 | | 7.6 / 0.214 | | | 0.13 | | | | 13 | 210 | 24 | 2 | | USGS |
| Dec 19 1420 | 252 | 54 | 9.9 | 92 | 252 | 7.3 | 24 / 1.198 | 10 / 0.842 | 9.0 / 0.392 | 3.7 / 0.095 | 0 / 0.000 | 98 / 1.606 | | 6.5 / 0.183 | | | 0.27 | | | | 16 | 102 | 22 | 140 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 12
## ANALYSES OF SURFACE WATER

REGION 3

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Uvas Creek near Morgan Hill** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 23 1315 | 112 | 54 | 11.4 | 106 | 291 | 7.4 | 30 / 1.497 | 15 / 1.203 | 7.9 / 0.344 | 0.8 / 0.020 | 6 / 0.200 | 141 / 2.311 | | 6.5 / 0.183 | | | 0.10 | | | | 11 | 135 | 10 | 7 | | USGS |
| Feb 14 1310 | 63 | 51 | 11.8 | 105 | 343 | 7.8 | 36 / 1.796 | 18 / 1.484 | 9.9 / 0.431 | 0.7 / 0.018 | 6 / 0.200 | 173 / 2.835 | | 5.6 / 0.158 | | | 0.22 | | | | 12 | 164 | 12 | 2 | | USGS |
| Mar 20 1115 | 28 | 53 | 10.7 | 98 | 365 | 7.2 | 38 / 1.896 | 20 / 1.624 | 12 / 0.522 | 0.8 / 0.020 | 0 / 0.000 | 201 / 3.294 | | 4.5 / 0.127 | | | 0.09 | | | | 13 | 176 | 11 | 0.4 | | USGS |
| Apr 17 1400 | 26 | 61 | 9.4 | 95 | 374 | 7.4 | 39 / 1.946 | 20 / 1.654 | 12 / 0.522 | 0.9 / 0.023 | 0 / 0.000 | 198 / 3.245 | | 6.6 / 0.186 | | | 0.09 | | | | 13 | 180 | 18 | 0.5 | | USGS |
| May 16 1245 | 17 | 69 | 9.6 | 106 | 361 | 7.8 | 40 / 1.996 | 18 / 1.444 | 13 / 0.566 | 1.0 / 0.026 | 0 / 0.000 | 193 / 3.163 | 34 / 0.708 | 5.4 / 0.152 | 0.3 / 0.005 | 0.2 / 0.011 | 0.07 | 22 | Fe 0.01; Zn 0.02; $PO_4$ 0.10; (a) | 229[b] | 14 | 172 | 14 | 2 | | USGS |
| June 20 1315 | 4.0 | 75 | 8.9 | 104 | 374 | 7.5 | 38 / 1.896 | 20 / 1.680 | 14 / 0.609 | 1.2 / 0.031 | 0 / 0.000 | 205 / 3.360 | | 6.4 / 0.180 | | | 0.14 | | | | 14 | 179 | 11 | 0.4 | | USGS |
| July 25 1215 | 1.5 | 72 | 7.7 | 87 | 380 | 7.3 | 42 / 2.096 | 19 / 1.584 | 14 / 0.609 | 1.1 / 0.028 | 0 / 0.000 | 213 / 3.491 | | 6.9 / 0.195 | | | 0.10 | | | | 14 | 184 | 9 | 0.6 | | USGS |
| Aug 22 1320 | 0.7 | 80 | 6.4 | 79 | 392 | 7.1 | 46 / 2.295 | 18 / 1.485 | 14 / 0.609 | 0.9 / 0.023 | 0 / 0.000 | 220 / 3.606 | | 4.8 / 0.135 | | | 0.10 | | | | 14 | 189 | 9 | 7 | | USGS |
| Sept 13 1040 | No flow | 66 | 8.8 | 94 | 406 | 7.7 | 46 / 2.295 | 19 / 1.525 | 16 / 0.696 | 1.0 / 0.026 | 0 / 0.000 | 221 / 3.622 | 33 / 0.687 | 8.8 / 0.248 | 0.7 / 0.011 | 0.0 / 0.000 | 0.22 | 23 | Fe 0.02; Mn 0.08; Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 257[b] | 15 | 191 | 10 | 130 | | USGS |
| Oct | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 16 1130 | 1.9 | 59 | 9.7 | 96 | 392 | 7.2 | 35 / 1.75 | 24 / 2.01 | 41 / 1.78 | 0.9 / 0.02 | 0 / 0.00 | 210 / 3.44 | | 7.0 / 0.20 | | | 0.03 | | | | 32 | 188 | 16 | 0.4 | | USGS |
| Dec 17 1250 | 2.0 | 56 | 10.0 | 95 | 386 | 7.5 | 28 / 1.90 | 22 / 1.78 | 13 / 0.57 | 1.0 / 0.03 | 0 / 0.00 | 210 / 3.44 | | 5.7 / 0.16 | | | 0.12 | | | | 13 | 184 | 12 | 0.4 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH) Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH Lab | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Los Angeles River at Los Angeles | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 5 1100 | 2.0 | 54 | 8.4 | 78 | | 7.6 | | | | | 0 / 0.00 | 280 / 4.59 | | 350 / 9.87 | | | | | | | 37 | 720 | | | | LADPH |
| Feb 2 1100 | 1.0 | 58 | 6.8 | 67 | | 7.7 | | | | | 0 / 0.00 | 250 / 4.10 | | 350 / 9.87 | | | 1.24 | | | | 31 | 690 | | | | LADPH |
| Mar 2 1200 | 6.8 | 72 | 4.5 | 52 | | 7.8 | | | | | 0 / 0.00 | 240 / 3.93 | | 320 / 9.02 | | | 1.3 | | | | 29 | 649 | | | | LADPH |
| Apr 7 0915 | 2.7 | 64 | 11.7 | 122 | | 8.1 | | | | | 20 / 0.67 | 175 / 2.87 | | 260 / 7.33 | | | 1.16 | | | | 49 | 465 | | | | LADPH |
| May 31 1645 | 3.1 | 68 | 21.0 | 229 | 1653 | 8.4 | 75 / 3.74 | 34 / 2.79 | 240 / 10.44 | 6.5 / 0.17 | 10 / 0.32 | 146 / 2.40 | 277 / 5.77 | 303 / 8.54 | 3.0 / 0.05 | 0.6 / 0.03 | 0.82 | 20 | | 1015 | 61 | 326 | 190 | 18 | | DWR |
| Jun 1 1410 | 2.1 | 74 | 12.5 | 147 | | 8.5 | | | | | 50 / 1.67 | 130 / 2.13 | | 255 / 7.19 | | | 1.4 | | | | 31 | 449 | | | | LADPH |
| Jul 6 1230 | 2.5 | 78 | 14.1 | 171 | | 8.3 | | | | | 30 / 1.00 | 145 / 2.38 | | 250 / 7.05 | | | 2.67 | | | | 52 | 396 | | | | LADPH |
| Aug 3 1115 | 3.4 | 76 | 10.5 | 131 | | 8.1 | | | | | 20 / 0.67 | 160 / 2.62 | | 300 / 8.46 | | | 1.1 | | | | 59 | 355 | | | | LADPH |
| Sept 3 1530 | 2.1 | 72 | 21.0 | 242 | 1700 | 8.4 | 94 / 4.69 | 34 / 2.79 | 230 / 10.01 | 6.0 / 0.154 | 48 / 1.60 | 139 / 2.28 | 263 / 5.47 | 292 / 8.23 | 0 / 0.00 | 0.6 / 0.032 | 0.78 | 30 | Fe 0.15; $PO_4$ 0.34; (a) | 1100 | 57 | 374 | 180 | 5- | | DWR |
| Oct 5 1400 | 2.4 | 74 | 12.2 | 142 | | 8.3 | | | | | 30 / 1.00 | 165 / 2.70 | | 300 / 3.46 | | | 0.9 | | | | 50 | 446 | | | | LADPH |
| Nov 2 1100 | 5.1 | 64 | 10.5 | 110 | | 8.2 | | | | | 20 / 0.67 | 185 / 3.03 | | 250 / 7.05 | | | 3.5 | | | | 54 | 395 | | | | LADPH |
| Dec 7 1315 | 9.0 | 64 | 6.2 | 65 | | 7.5 f | | | | | 0 / 0.00 | 150 / 2.46 | | 116 / 3.27 | | | 0.7 | | | | 34 | 349 | | | | LADPH |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 425 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

f Field

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Los Angeles River at Los Angeles** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 4 1315 | 7.2 | 62 | 12.1 | 124 | | 8.0 | | | | | 20 / 0.67 | 170 / 2.79 | | 157 / 4.43 | | | 0.9 | | | | 26 | 527 | | | | LADPH |
| Feb 1 1115 | 10.6 | 50 | 6.9 | 61 | | 7.9* | | | | | 0 / 0.00 | 190 / 3.11 | | 430 / 12.13 | | | 1.2 | | | | 53 | 633 | | | | LADPH |
| Mar 7 1400 | 5.4 | 68 | 16.9 | 184 | | 8.7* | | | | | 120 / 4.00 | 85 / 1.39 | | 260 / 7.33 | | | 0.6 | | | | 36 | 775 | | | | LADPH |
| Apr 4 1320 | 11.4 | 69 | 13.2 | 147 | | 8.3* | | | | | 60 / 2.00 | 120 / 1.97 | | 220 / 6.20 | | | 0 | | | | 31 | 580 | | | | LADPH |
| May 16 0800 | 7.6 | 73 | 20 | 234 | 1443 | 8.4 | 95 / 4.74 | 41 / 3.37 | 152 / 6.61 | 9.4 / 0.24 | 14 / 0.48 | 144 / 2.36 | 349 / 7.28 | 160 / 4.51 | 1.5 / 0.024 | 0.7 / 0.037 | 0.68 | 25 | $PO_4$ 0.8; (a) $CrO_3$ 0.01 | 920[b] | 44 | 405 | 263 | 15 | | DWR |
| June 7 | 3.3 | 83 | 18.4 | 232 | | | | | | | 100 / 3.33 | 80 / 1.31 | | 290 / 8.18 | | | 0.8 | | | | 39 | 536 | | | | LADPH |
| July 5 1000 | 2.2 | 88 | 17.6 | 235 | | 9.0* | | | | | 110 / 3.67 | 95 / 1.56 | | 330 / 9.31 | | | 0.9 | | | | 21.8 | 543 | | | | LADPH |
| Aug 1 1340 | 1.6 | 90 | 13.6 | 185 | | 8.4* | | | | | 30 / 1.00 | 190 / 3.11 | | 385 / 10.86 | | | 1.7 | | | | 55.1 | 519 | | | | LADPH |
| Sept 28 1230 | 3.5 | 88 | 16.0 | 214 | 1773 | 8.5 | 101 / 5.04 | 43 / 3.53 | 252 / 10.96 | 7.4 / 0.189 | 24 / 0.80 | 200 / 3.28 | 353 / 7.36 | 306 / 8.63 | 0.0 / 0.00 | 0.8 / 0.042 | 0.90 | 25 | $PO_4$ 0.78; (a) | 1274[c] | 55 | 428 | 224 | -5 | | DWR |
| Oct 3 1050 | 0.6 | 86 | 16.96 | 222 | | 8.1* | | | | | 95 / 3.17 | 92.5 / 1.52 | | 345 / 9.73 | | | 0.55 | | | | 28.7 | 807 | | | | LADPH |
| Nov 14 1050 | 1.0 | 68 | 17.52 | 191 | | 8.4* | | | | | 60 / 2.00 | 215 / 3.52 | | 400 / 11.28 | | | 0.9 | | | | 31.5 | 899 | | | | LADPH |
| Dec 5 1400 | 1.3 | 60 | 9.52 | 96 | | 8.0* | | | | | | 290 / 4.75 | | 350 / 9.87 | | | 1.3 | | | | 28 | 926 | | | median 60 minimum 23 maximum 620 | LADPH |

* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH Lab | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Los Angeles River at Long Beach | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 5 1000 | Est 7.2 | 48 | 8.2 | 69 | | 7.8 | | | | | 0 / 0.00 | 190 / 3.11 | | 350 / 9.87 | | | | | | | 59 | 386 | | | | LBDPH |
| Feb 2 1000 | 11.7 | 46 | 8.8 | 74 | | 7.8 | | | | | 0 / 0.00 | 136 / 2.23 | | 172 / 4.85 | | | | | | | 61 | 268 | | | | LBDPH |
| Mar 2 1000 | 19.0 | 57 | 7.8 | 75 | | 7.7 | | | | | 0 / 0.00 | 176 / 2.88 | | 253 / 7.13 | | | | | | | 55 | 315 | | | | LBDPH |
| Apr 6 | 19.0 | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | |
| May 26 1730 | 10.8 | 63 | 9.8 | 102 | 1640 | 8.4 | 91 / 4.54 | 25 / 2.06 | 245 / 10.66 | 7.8 / 0.20 | 0 / 0.00 | 249 / 4.08 | 192 / 4.01 | 314 / 8.85 | 2.0 / 0.03 | 0.6 / 0.03 | 0.24 | 20 | As 0.1; (a) | 1050 | 61 | 330 | 126 | 55 | | DWR |
| Jun 1 | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 6 | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 3 0930 | Est 18 | 77 | 0.2 | 2.4 | | 7.7 | | | | | 0 / 0.00 | 320 / 5.25 | | 4160 / 117.31 | | | | | | | 68 | 1898 | | | | LBDPH |
| Oct 3 1400 | 18.4 | 79 | 0.0 | 0 | 20408 | 8.4 | 337 / 16.82 | 148 / 12.17 | 4600 / 200.1 | 41 / 1.05 | 0 / 0.00 | 551 / 9.04 | 105 / 2.19 | 7775 / 219.3 | 2.0 / 0.032 | 0.4 / 0.021 | 17.8 | 20 | Fe 0.45; As 1.0; $PO_4$ 1.2; (a) | 13950 | 86 | 1450 | 998 | 14 | | DWR |
| Oct 5 0930 | 19.0 | 72 | 0.3 | 3.4 | | 7.7 | | | | | 0 / 0.00 | 291 / 6.41 | | 6770 / 190.92 | | | | | | | 70 | 3212 | | | | LBDPH |
| Nov 2 0930 | 12.4 | 61 | 0.3 | 1.5 | | 7.3 | | | | | 0 / 0.00 | 355 / 5.82 | | 7420 / 209.24 | | | | | | | 86 | 1215 | | | | LBDPH |
| Dec 7 0930 | 21± | 61 | 2.5 | 25 | | 7.6 | | | | | 0 / 0.00 | 234 / 3.84 | | 1980 / 55.84 | | | | | | | 84 | 503 | | | | LBDPH |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 12 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 62 | |

e Field

a Iron (Fe), aluminum (Al), arsenic (As); copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Los Angeles River at Long Beach | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 4 0930 | 37± | 57 | 0.8 | 7.7 | | 7.5 | | | | | 0 / 0.00 | 337 / 5.52 | | 4620 / 130.28 | | | | | | | 84 | 1144 | | | | LBDPH |
| Feb 1 0930 | 217± | 52 | 5.6 | 51 | | 7.6* | | | | | 0 / 0.00 | 146 / 2.39 | | 1280 / 36.08 | | | | | | | 77 | 398 | | | | LBDPH |
| Mar 7 1000 | 16.8 | 57 | 1.2 | 12 | | 7.8* | | | | | 0 / 0.00 | 361 / 5.92 | | 4200 / 118.44 | | | | | | | 81 | 903 | | | | LBDPH |
| Apr 4 1000 | 37 | 66 | 1.1 | 12 | | 7.8* | | | | | 0 / 0.00 | 320 / 5.25 | | 3780 / 106.6 | | | | | | | 84 | 929 | | | | LBDPH |
| May 14 1620 | 26.6 | 81 | 0.0 | 0 | 18519 | 7.9 | 248 / 17.37 | 157 / 12.91 | 5000 / 217.5 | 46 / 1.18 | 0 / 0.00 | 747 / 12.24 | 88 / 1.83 | 8275 / 233.36 | 6.0 / 0.097 | 3.2 / 0.168 | 16.4 | 40 | Fe 0.5; Mn 0.3; As 2.0; $NH_4$ 40; (a) $PO_4$ 3.0 | 14377[b] | 87 | 1515 | 903 | 35 | | DWR |
| June 6 | 15.0 | 69.8 | 6.2 | 69.1 | | 7.9* | | | | | 0 / 0.00 | 263 / 4.31 | | 1800 / 50.76 | | | | | | | 81 | 497 | | | | LBDPH |
| July 5 1000 | 10.6 | 79 | 3.6 | 31.5 | | 7.9* | | | | | | | | 631 / 17.79 | | | | | | | 55.5 | 1691 | | | | LBDPH |
| Aug | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept 28 1330 | 13.5 | 88 | 10.2 | 136 | 15150 | 8.3 | 238 / 11.88 | 123 / 10.11 | 3220 / 140.07 | 30.5 / 0.78 | 0.0 / 0.00 | 700 / 11.48 | 100 / 2.09 | 5390 / 152.00 | 6.4 / 0.104 | 1.4 / 0.074 | 8.5 | 30 | NH 29.0; As 1.5; $PO_4$ 5.5; (a) | 10317[c] | 85 | 1100 | 526 | 40 | | DWR |
| Oct 3 1000 | 13.0 | 73.4 | 0.40 | 4.6 | | 7.2* | | | | | 0.0 / 0.00 | 365 / 5.98 | | 4090 / 115.34 | | | | | | | 99 | 510 | | | | LBDPH |
| Nov 7 0945 | 9.5 | 69.8 | 3.0 | 33 | | 7.5* | | | | | 0.0 / 0.00 | 260 / 4.26 | | 5520 / 155.66 | | | | | | | | | | | | LBDPH |
| Dec 5 1100 | 15.9 | 61 | 2.10 | 21 | | 7.5* | | | | | 0.0 / 0.00 | 364 / 5.97 | | 4852 / 136.83 | | | | | | | 87 | 958 | | | median 60; minimum 60; maximum 230 | LBDPH |

* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Matilija Creek above Matilija Dam | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 26 1410 | 9.5 | 61 | 7.6 | 77 | 1090 | 8.0 | | | | | 0/0.00 | 433/7.10 | | 40/1.13 | | | 0.98 | | | | 20 | 432 | | 5- | | DWR |
| Feb 28 1540 | 8.2 | 62 | 8.2 | 84 | 1026 | 8.0 | | | | | 10/0.33 | 241/3.95 | | 37/1.04 | | | 0.84 | | | | 32 | 284 | | 5- | | DWR |
| Mar 15 1400 | 10 | 64 | 8.4 | 81 | 1015 | 8.2 | | | | | 14/0.47 | 210/3.44 | | 36/1.01 | | | 0.86 | | | | 25 | 402 | | 5- | | DWR |
| Apr 13 1600 | 5.2 | 72 | 8.0 | 91 | 1050 | 7.7 | | | | | 0/0.00 | 234/3.84 | | 45/1.27 | | | 1.44 | | | | 27 | 406 | | 5- | | DWR |
| May 11 0920 | 14 | 69 | 7.6 | 78 | 950 | 8.2 | 11[a]/5.89 | 31/2.55 | 54/2.35 | 2.5/0.06 | 10/0.32 | 244/4.00 | 278/5.80 | 29/0.82 | 1.0/0.02 | 0.8/0.04 | 0.84 | 20 | | 793 | 22 | 422 | 206 | 5- | | DWR |
| Jun 8 1300 | 5.2 | 77 | 7.0 | 84 | 1000 | 8.4 | | | | | 0/0.00 | 239/3.92 | | 40/1.13 | | | 0.96 | | | | 24 | 410 | | 5- | | DWR |
| Jul 7 0930 | 3.5 | 66 | 6.6 | 71 | 1071 | 7.6 | | | | | 0/0.00 | 261/4.28 | | 70/1.97 | | | 2.15 | | | | 29 | 401 | | 5- | | DWR |
| Aug 9 1100 | 1.6 | 73 | 5.2 | 60 | 1224 | 7.6 | | | | | | 254/4.16 | | 102/2.88 | | | 3.30 | | | | 31 | 429 | | 5- | | DWR |
| Sep 22 1530 | 0.6 | 82 | 5.0 | 62 | 1140 | 7.7 | 121/6.04 | 31/2.55 | 105/4.57 | 2.5/0.089 | 0.0/0.0 | 268/4.40 | 240/5.00 | 125/3.53 | 0.0/0.0 | 1.8/0.094 | 2.64 | 20 | $PO_4$ 0.04; (a) | 826 | 34 | 430 | 210 | 5- | | DWR |
| Oct 5 0900 | 1.2 | 68 | 4.8 | 50 | 1348 | 7.6 | | | | | | 263/4.31 | | 155/4.37 | | | 3.20 | | | | 36 | 444 | | 5- | | DWR |
| Nov 9 1430 | 1.5 | 72 | 4.4 | 50 | 1398 | 8.0 | | | | | 0/0.00 | 288/4.72 | | 167/4.71 | | | 4.3 | | | | 38 | 449 | | 5- | | DWR |
| Dec 7 1200 | 2.4 | 50 | 6.6 | 58 | 1430 | 8.0 | | | | | 0/0.00 | 268/4.39 | | 162/4.57 | | | 4.32 | | | | 36 | 480 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2.3 minimum .45 - maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.0/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Matilija Creek above Matilija Dam | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1100 | 7.5 | 59 | 9.2 | 91 | 1129 | 8.0 | | | | | 0/0.00 | 271/4.44 | | 53/1.49 | | | 1.60 | | | | 24 | 435 | | -5 | | DWR |
| Feb 9 1400 | 20 | 59 | 6.4 | 63 | 1024 | 8.2 | | | | | 10/0.33 | 237/3.88 | | 22/0.62 | | | 1.06 | | | | 18 | 439 | | -5 | | DWR |
| Mar 7 1130 | 20 | 54 | 8.4 | 77 | 1030 | 8.2 | | | | | 0/0.00 | 259/4.25 | | 31/0.87 | | | 1.75 | | | | 20 | 447 | | -5 | | DWR |
| Apr 12 1330 | 34 | 57 | 8.0 | 77 | 921 | 8.2 | | | | | 0/0.00 | 227/3.72 | | 27/0.76 | | | 0.57 | | | | 19 | 389 | | -5 | | DWR |
| May 9 1330 | 108. | 59 | 8.8 | 87 | 775 | 8.2 | 101/5.04 | 27/2.22 | 31/1.35 | 9.0/0.23 | 10/0.32 | 183/3.00 | 240/5.00 | 17/0.48 | 1.0/0.016 | 0.6/0.032 | 0.30 | 15 | $PO_4$ 0.5; (a) | 544[b] | 15 | 363 | 197 | 700 | | DWR |
| June 8 1230 | 9.9 | 70 | 6.4 | 71.5 | 955 | 8.0 | | | | | 0/0.00 | 229/3.75 | | 35/0.99 | | | 0.89 | | | | 20 | 404 | | -5 | | DWR |
| July 3 1030 | 5.1 | 64 | 8.4 | 88 | 1034 | 8.4 | | | | | 0/0.00 | 264/4.33 | | 50/1.41 | | | 0.98 | | | | 24 | 434 | | -5 | | DWR |
| Aug 14 1100 | 2.4 | 68 | 9.8 | 107 | 1133 | 8.0 | | | | | 0/0.00 | 266/4.36 | | 87/2.45 | | | 1.64 | | | | 28 | 426 | | -5 | | DWR |
| Sept 12 0830 | 1.8 | 66 | 8.4 | 90 | 1181 | 8.0 | 126/6.29 | 32/2.63 | 98/4.26 | 3.1/0.079 | 0/0.00 | 293/4.80 | 248/5.16 | 118/3.33 | 0.4/0.006 | 1.2/0.063 | 3.1 | 20 | $PO_4$ 0.06; (a) | 896[c] | 32 | 446 | 206 | -5 | | DWR |
| Oct 3 0900 | 1.6 | 68 | 9.0 | 98 | 1246 | 8.2 | | | | | 0/0.00 | 288/4.72 | | 130/3.67 | | | 3.45 | | | | 33 | 442 | | -5 | | DWR |
| Nov 1 0930 | 1.71 | 59 | 9.8 | 97 | 1273 | 8.0 | | | | | 0/0.00 | 297/4.87 | | 133/3.75 | | | 4.30 | | | | 34 | 444 | | -5 | | DWR |
| Dec 11 1000 | 1.9 | 59 | 8.8 | 87 | 1240 | 8.0 | | | | | 0/0.00 | 293/4.80 | | 128/3.61 | | | 3.26 | | | | 33 | 444 | | -5 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .45 - | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH Lab | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Metropolitan Water District Aqueduct at La Verne | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | No report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | * | 51 | | | 1050 | 8.3 | | | | | 1/0.03 | 150/2.46 | | 80/2.26 | | | | | | | 38 | 331 | | | | Mwd |
| Mar | * | 54 | | | 1055 | 8.5 | | | | | 2/0.07 | 149/2.44 | | 81/2.28 | | | | | | | 38 | 334 | | | | Mwd |
| Apr | * | 60 | | | 1050 | 8.6 | | | | | 2/0.07 | 146/2.39 | | 81/2.28 | | | | | | | 39 | 333 | | | | Mwd |
| May | No report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun | * | 66 | 8.9 | 95 | 1090 | 8.3 | | | | | 0/0.00 | 143/2.34 | | 86/2.43 | | | 0.18 | | | | 39 | 337 | | | | Mwd |
| Jul | * | 70 | | | 1115 | 8.2 | | | | | 0/0.00 | 133/2.18 | | 90/2.54 | | | | | | | 41 | 331 | | | | Mwd |
| Aug | * | 74 | | | 1145 | 8.2 | | | | | 0/0.00 | 127/2.08 | | 94/2.65 | | | | | | | 42 | 334 | | | | Mwd |
| Sep | * | | | | 1145 | 8.2 | 82/4.14 | 33/2.71 | 111/4.83 | 5/0.13 | 0/0.00 | 132/2.16 | 333/6.93 | 95/2.68 | 0.4/0.01 | 0.3/0.02 | | 10.4 | | 737 | 41 | 343 | 235 | | | Mwd |
| Oct | No report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | No report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | * | 58 | | | 1200 | 8.4 | | | | | 1/0.03 | 145/2.38 | | 96/2.71 | | | 0.17 | | | | 40 | 367 | | | | Mwd |

* Composite Sample

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 4

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Metropolitan Water District Aqueduct at La Verne | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | | 56 | 11.0 | 102 | 1205 | 8.4 | | | | | 1/0.03 | 140/2.44 | | 99/2.79 | | | | | | | 41 | 370 | | | | MWD |
| Feb | | 52 | | | 1210 | 8.5* | | | | | 1/0.03 | 151/2.47 | | 98/2.77 | | | | | | | 39 | 373 | | | | MWD |
| Mar | | 55 | | | 1235 | 8.5* | | | | | 2/0.07 | 154/2.52 | | 102/2.88 | | | | | | | 40 | 376 | | | | MWD |
| Apr | | 57 | | | 1245 | 8.4* | | | | | 1/0.03 | 156/2.56 | | 101/2.85 | | | | | | | 39 | 382 | | | | MWD |
| May | | 60 | 9.8 | 103 | 1240 | 8.3 | 96/4.79 | 34/2.79 | 115/5.00 | 5/0.13 | 0/0.00 | 153/2.51 | 353/7.34 | 102/2.88 | 1.2/0.02 | 0.4/0.02 | | 10.1 | | 793[c] | 39 | 380 | 255 | | | MWD |
| June | | 65 | | | 1235 | 8.2* | | | | | 0/0.00 | 143/2.34 | | 102/2.88 | | | 0.17 | | | | 40 | 375 | | | | MWD |
| July | | 71 | | | 1245 | 8.1* | | | | | 0/0.00 | 133/2.18 | | 103/2.90 | | | | | | | 41 | 367 | | | | MWD |
| Aug | | 75 | | | 1260 | 8.2* | | | | | 0/0.00 | 127/2.08 | | 109/3.07 | | | | | | | 41 | 366 | | | | MWD |
| Sept | | 76 | | | 1270 | 8.3* | 92/4.59 | 34.5/2.84 | 120/5.22 | 5/0.13 | 1/0.03 | 132/2.16 | 361/7.51 | 110/3.10 | 0.8/0.01 | 0.4/0.02 | | 10.2 | | 801[c] | 41 | 372 | 262 | | | MWD |
| Oct | | 71 | | | 1255 | 8.4* | | | | | 1/0.03 | 139/2.28 | | 108/3.05 | | | | | | | 41 | 377 | | | | MWD |
| Nov | | 62 | | | 1260 | 8.4* | | | | | 1/0.03 | 151/2.48 | | 110/3.10 | | | | | | | 40 | 389 | | | | MWD |
| Dec | | 56 | | | 1260 | 8.5* | | | | | 2/0.07 | 154/2.52 | | 110/3.10 | | | 0.15 | | | | 40 | 393 | | | | MWD |
| Composite Sample January thru December | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| [illegible] Creek at [illegible] Narrows | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | 80 | 580 | 7.6 | | | | | 0 / [illegible] | 271 / 4.44 | | 19 / 0.51 | | | 0.14 | | | | 14 | [illegible] | | 5- | | [illegible] |
| [illegible] | 6.3 | 59 | 11.[illegible] | [illegible] | [illegible] | 8.2 | | | | | 7 / 0.23 | 224 / 3.67 | | 16 / 0.45 | | | 0.10 | | | | 13 | [illegible] | | 5- | | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8.2 | | | | | 6 / [illegible] | 242 / [illegible] | | 17 / 0.48 | | | 0.06 | | | | 17 | 442 | | 5- | | [illegible] |
| [illegible] | 4.7 | 61 | [illegible] | [illegible] | [illegible] | 8.2 | | | | | 5 / 0.17 | [illegible] / 3.64 | | 19 / 0.51 | | | 0.10 | | | | 18 | [illegible] | | 5- | | [illegible] |
| [illegible] | 5.5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] / [illegible] | [illegible] / 0.21 | 24 / 1.04 | 1.5 / 0.[illegible] | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] / 1.17 | 19 / 0.54 | 5.5 / 0.09 | 0.6 / [illegible] | 0.2 | 25 | | 355 | 17 | 246 | 46 | 5- | | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] / [illegible] | | | | | 244 / 4.0 | | [illegible] / 0.59 | | | 0.14 | | | | 19 | 234 | | 5- | | ... |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | | 2 / [illegible] | 215 / 3.[illegible] | | 18 / 0.51 | | | 0.12 | | | | 23 | 172 | | 14 | | [illegible] |
| [illegible] | 1.9 | [illegible] | [illegible] | [illegible] | 473 | 8.2 | | | | | 10 / [illegible] | 193 / 3.16 | | 14 / 0.39 | | | 0.14 | | | | 18 | 209 | | 5- | | [illegible] |
| [illegible] | 1.1 | 64 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] / [illegible] | 16 / 1.33 | 23 / 1.0 | 1.8 / 0.[illegible] | 0 / 0.00 | 227 / 3.72 | 42 / [illegible] | 14 / [illegible] | 1.4 / .136 | 1.6 / 0.082 | 0.08 | 20 | $PO_4$ 0.12; (a) | 321 | 19 | 214 | 28 | 5- | | [illegible] |
| [illegible] | 1.1 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | | | | | | 226 / 3.70 | | 17 / 0.4[illegible] | | | 0.25 | | | | 19 | 221 | | 5- | | [illegible] |
| [illegible] | 1.2 | 57 | [illegible] | [illegible] | 5.21 | [illegible] | | | | | 5 / 0.17 | 227 / 3.72 | | 16 / 0.45 | | | 0.20 | | | | 17 | 229 | | 5- | | [illegible] |
| [illegible] | 1.5 | 57 | [illegible] | [illegible] | [illegible] | [illegible] | | | | | 0 / [illegible] | 227 / 3.72 | | 18 / 0.51 | | | 0.10 | | | | 21 | 240 | | 5- | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

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REGION 4

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Mission Creek at Whittier Narrows | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1115 | 5.2 | 55 | 8.6 | 81 | 726 | 8.0 | | | | | 0/0.00 | 264/4.33 | | 20/0.56 | | | 0.02 | | | | 11 | 332 | | 18 | | DWR |
| Feb 15 1135 | 3.1 | 57 | 9.0 | 87 | 690 | 7.8 | | | | | 0/0.00 | 276/4.52 | | 24/0.67 | | | 0.26 | | | | 12 | 349 | | 18 | | DWR |
| Mar 6 1115 | 4.2 | 57 | 9.8 | 94 | 663 | 8.4 | | | | | 0/0.00 | 256/4.20 | | 24/0.67 | | | 0.24 | | | | 13 | 294 | | -5 | | DWR |
| Apr 10 1130 | 3.7 | 59 | 9.4 | 93 | 616 | 8.1 | | | | | 7/0.23 | 217/3.56 | | 22/0.62 | | | 0.04 | | | | 16 | 267 | | -5 | | DWR |
| May 16 1110 | 4.4 | 67 | 9.0 | 97 | 581 | 8.0 | 82/4.09 | 21/1.73 | 26/1.13 | 9.2/0.236 | 0/0.00 | 254/4.16 | 100/2.08 | 23/0.65 | 7.0/0.113 | 0.8/0.042 | 0.12 | 20 | $PO_4$ 0.2 | 416[b] | 16 | 291 | 83 | -5 | | DWR |
| June 12 1030 | 2 | 68 | 9.0 | 98 | 594 | 8.3 | | | | | 7/0.23 | 217/3.56 | | 25/0.71 | | | 0.31 | | | | 16 | 261 | | -5 | | DWR |
| July 10 1025 | 2.1 | 66 | 9.8 | 105 | 536 | 8.2 | | | | | 0/0.00 | 227/3.72 | | 17/0.48 | | | 0.01 | | | | 16 | 240 | | -5 | | DWR |
| Aug 7 1120 | 1.0 | 68 | 10.0 | 109 | 452 | 8.1 | | | | | 7/0.23 | 205/3.36 | | 17/0.48 | | | 0.00 | | | | 21 | 180 | | -5 | | DWR |
| Sept 12 0900 | 1.1 | 61 | 9.0 | 90 | 449 | 8.0 | 54/2.69 | 16/1.32 | 19/0.83 | 1.6/0.41 | 0.0/0.00 | 218/3.58 | 43/0.90 | 12/0.34 | 4.0/0.064 | 0.6/0.032 | 0.08 | 20 | $PO_4$ 0.42; (a) | 297[c] | 17 | 200 | 21 | -5 | | DWR |
| Oct 8 1425 | 5.2 | 64 | 8.4 | 88 | 515 | 7.8 | | | | | 0/0.00 | 227/3.72 | | 15/0.42 | | | 0.09 | | | | 16 | 234 | | -5 | | DWR |
| Nov 13 1645 | 5.2 | 61 | 8.2 | 82 | 820 | 7.7 | 74/3.69 | 23/1.89 | 63/2.74 | 5.7/0.146 | 0/0.00 | 237/3.88 | 137/2.86 | 53/1.49 | 10.8/0.174 | 0.8/0.042 | 0.09 | 30 | | 561[c] | 33 | 277 | | -5 | | DWR |
| Dec 11 1130 | 3.1 | 61 | 9.4 | 94 | 790 | 7.4 | 92/4.59 | 16/1.32 | 44/1.91 | 3.9/0.10 | 0/0.00 | 261/4.28 | 75/1.56 | 69/1.95 | 7.0/0.113 | 0.6/0.032 | 0.18 | 20 | | 465[c] | 24 | 296 | | -5 | median 170 minimum 2.3 maximum 7000 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

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REGION 4

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Mono-Owens Aqueduct near San Fernando | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 | 311 | 54 | 13.1 | 101 | 346 | 8.2 | | | | | 2 / 0.07 | 127 / 2.08 | | 16 / 0.45 | | | 0.54 | | | | 49 | 90 | | 5 | | [illegible] |
| Feb 17 | [illegible] | 46 | 11.1 | 92 | 352 | 8.4 | | | | | 5 / 0.17 | 124 / 2.03 | | 19 / 0.54 | | | 0.59 | | | | 47 | 91 | | 3 | | [illegible] |
| Mar 22 | [illegible] | 50 | 11.3 | 100 | 363 | 8.5 | | | | | 3 / 0.10 | 130 / 2.13 | | 19 / 0.54 | | | 0.70 | | | | 49 | 92 | | 7 | | [illegible] |
| Apr 18 | [illegible] | [illegible] | 9.7 | 92 | 362 | 8.5 | | | | | 3 / 0.10 | 130 / 2.13 | | 21 / 0.59 | | | 0.57 | | | | 48 | 98 | | 5 | | [illegible] |
| May 17 | [illegible] | 61 | 8.9 | 89 | [illegible] | 8.5 | 27 / 1.35 | 6 / 0.49 | 45 / 1.95 | 4.8 / 0.12 | 4 / 0.13 | 136 / 2.22 | 25 / 0.53 | 22 / 0.62 | 0.1 / 0.002 | 0.8 | 0.63 | 17 | Fe 0.[illegible]; (a) | [illegible] | 50 | 93 | 6 | 4 | | [illegible] |
| Jun 21 | 443 | [illegible] | 8.3 | 91 | 352 | 8.5 | | | | | 3 / 0.10 | 123 / 2.02 | | 21 / 0.59 | | | 0.57 | | | | 50 | 97 | | 2 | | [illegible] |
| Jul 19 | [illegible] | 72 | 7.4 | [illegible] | 365 | 8.4 | | | | | 2 / 0.07 | 117 / 1.75 | | 16 / 0.45 | | | 0.28 | | | | 46 | 80 | | 3 | | [illegible] |
| Aug 9 | [illegible] | 75 | 7.2 | 84 | [illegible] | 8.4 | | | | | 2 / 0.07 | 97 / 1.59 | | 13 / 0.37 | | | 0.26 | | | | 44 | 76 | | 3 | | [illegible] |
| Sep 20 | 450 | [illegible] | 8.0 | [illegible] | 390 | 8.5 | 23 / 1.15 | 4.8 / 0.40 | 32 / 1.30 | 4.0 / 0.10 | 3 / 0.10 | [illegible] / 1.61 | 20 / 0.42 | [illegible] / 0.24 | 0.14 / 0.002 | 0.5 / 0.026 | 0.31 | 22 | Fe 0.03; (a) | 169 | 44 | 78 | 0 | 4 | | [illegible] |
| Oct 18 | 459 | 60 | 8.9 | 89 | 372 | 8.3 | | | | | 2 / 0.07 | 129 / 2.11 | | 19 / 0.51 | | | 0.42 | | | | 45 | 99 | | 3 | | [illegible] |
| Nov 22 | 406 | 55 | 9.7 | 90 | 307 | 8.6 | | | | | 3 / 0.10 | 100 / 1.64 | | 15 / 0.42 | | | 0.30 | | | | 44 | 81 | | 2 | | [illegible] |
| Dec 20 | 456 | [illegible] | 10.6 | 93 | 303 | 8.5 | | | | | 3 / 0.10 | 117 / 1.75 | | 16 / 0.45 | | | 0.37 | | | | 44 | 83 | | 3 | | [illegible] |

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b Determined by addition of analysed constituents

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d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Mono-Owen. Aqueduct near San Fernando | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 | 401 | 48 | 10.0 | 86 | 312 | 8.3 | | | | | 2 / 0.07 | 108 / 1.77 | | 16 / 0.45 | | | 0.35 | | | | 47 | 80 | | 6 | | LADWP |
| Feb 14 1100 | 410 | 46 | 10.5 | 89 | 350 | 8.3 | | | | | 3 / 0.10 | 105 / 1.72 | | 21 / 0.59 | | | 0.33 | | | | 46 | 86 | | 16 | | LADWP |
| Mar 20 1100 | 452 | 49 | 10.3 | 90 | 346 | 8.4 | | | | | 3 / 0.10 | 108 / 1.77 | | 20 / 0.56 | | | 0.36 | | | | 39 | 86 | | 9 | | LADWP |
| Apr 17 1100 | 474 | 53 | 9.8 | 81 | 348 | 8.6 | | | | | 3 / 0.10 | 112 / 1.84 | | 20 / 0.56 | | | 0.40 | | | | 46 | 88 | | 9 | | LADWP |
| May 22 1100 | 456 | 63 | 8.5 | 88 | 364 | 8.3 | 27 / 1.35 | 5.5 / .45 | 39 / 1.70 | 4.8 / .12 | 2 / 0.08 | 117 / 1.92 | 28 / 0.60 | 20 / 0.60 | 0.0 | 0.6 / 0.032 | 0.41 | 22 | Fe .1 (a) | 208[b] | 47 | 91 | | 7 | | LADWP |
| June 19 1100 | 446 | 67 | 8.4 | 92.5 | 329 | 8.4 | | | | | 2 / 0.07 | 105 / 1.72 | | 18 / 0.51 | | | 0.39 | | | | 49 | 80 | | 3 | | LADWP |
| July 17 1100 | 437 | 70 | 7.9 | 88 | 279 | 8.4 | | | | | 3 / 0.10 | 91 / 1.49 | | 17 / 0.48 | | | 0.29 | | | | 43 | 75 | | 3 | | LADWP |
| Aug 21 1100 | 438 | 70 | 7.5 | 83.5 | 267 | 8.2 | | | | | 2 / 0.07 | 86 / 1.41 | | 15 / 0.42 | | | 0.25 | | | | 41 | 71 | | 3 | | LADWP |
| Sept 18 1100 | 424 | 72 | 7.8 | 88 | 275 | 8.2 | 22 / 1.10 | 4.5 / 0.37 | 26 / 1.13 | 4.3 / 0.11 | 3 / 0.10 | 95 / 1.56 | 19 / 0.40 | 13 / 0.37 | 0.1 | 0.5 / 0.026 | 0.29 | 19 | Fe 0.08; (a) | 159[b] | 42 | 75 | 0 | 0 | | LADWP |
| Oct 16 1100 | 459 | 57 | 10.2 | 98 | 343 | 8.1 | | | | | | 118 / 1.93 | | 17 / 0.48 | | | 0.59 | | | | 47 | 94 | | 1 | | LADWP |
| Nov 13 1100 | 463 | 55 | 9.6 | 91 | 300 | 8.6 | | | | | | 103 / 1.69 | | 17 / 0.48 | | | 0.42 | | | | 47 | 84 | | 8 | | LADWP |
| Dec 18 1100 | 464 | 46 | 10.4 | 88 | 315 | 8.5 | | | | | | 111 / 1.82 | | 16 / 0.45 | | | 0.35 | | | | 42 | 90 | | 10 | | LADWP |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| Rio Hondo at Whittier Narrows | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1945 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 2 0945 | 6.64 | 43 | 12.0 | 97 | 182 | 8.2 | | | | | 0 / 0.00 | 94 / 1.54 | | 6 / 0.17 | | | 0.06 | | | | 15 | 63 | | 1150 | | [illegible] |
| Feb 1 [illegible] | 5.1 | 64 | 10.0 | 1.6 | [illegible] | 8.4 | | | | | 0 / 0.00 | 64 / 1.05 | | 52 / 1.47 | | | 0.08 | | | | 33 | 253 | | 5+ | | [illegible] |
| Mar 8 1105 | 5.4 | 70 | 16.2 | 190 | 769 | 8.4 | | | | | 7 / 0.23 | 244 / 4.00 | | 74 / 2.09 | | | 0.14 | | | | 35 | 244 | | 10 | | [illegible] |
| Apr 4 1020 | 5.2 | 70 | 13.2 | 150 | 666 | 8.4 | | | | | 0 / 0.00 | 264 / 4.33 | | 44 / 1.21 | | | 0.18 | | | | 29 | 234 | | 5+ | | [illegible] |
| May 9 0945 | 5.47 | 73 | 6.0 | 71 | 654 | 8.2 | 64 / 3.19 | 18 / 1.48 | 42 / 1.83 | 5.3 / 0.14 | 0 / 0.00 | 268 / 4.40 | 53 / 1.11 | 20 / 0.54 | 7.0 / 0.13 | .6 / 0.03 | 0.10 | 35 | | 380 | 28 | 234 | 14 | 5+ | | [illegible] |
| Jun 6 1000 | 4.9 | 72 | 7.0 | 79 | 721 | 8.4 | | | | | 0 / 0.00 | 256 / 4.20 | | 56 / 1.58 | | | 0.14 | | | | 37 | 230 | | 5+ | | [illegible] |
| Jul 11 1100 | 3.9 | 71 | 8.2 | 102 | 842 | 8.3 | | | | | 0 / 0.23 | 271 / 4.44 | | 68 / 1.92 | | | 0.17 | | | | 46 | 229 | | 5+ | | [illegible] |
| Aug 9 1040 | 3.4 | 77 | 9.8 | 117 | [illegible] | 8.4 | | | | | 2 / 0.07 | 259 / 4.25 | | 93 / 2.62 | | | 0.12 | | | | 35 | 262 | | 5+ | | [illegible] |
| Sep 13 1[illegible] | 4.9 | 75 | 11.8 | 138 | 1028 | 8.4 | 81 / 4.04 | 24 / 1.97 | 110 / 4.79 | 5.8 / 0.148 | 0 / 0.00 | 256 / 4.20 | 94 / 1.96 | 161 / 4.54 | 7.9 / 0.128 | 0.8 / 0.042 | 0.08 | 8 | $PO_4$ 0.38 ; (a) | 678 | 44 | 301 | 91 | 5+ | | [illegible] |
| Oct 11 1540 | 3.3 | 68 | 9.2 | 100 | 982 | 8.4 | | | | | | 256 / 4.20 | | 95 / 2.68 | | | 0.25 | | | | 45 | 255 | | 5+ | | [illegible] |
| Nov 7 0900 | 3.4 | 55 | 7.8 | 74 | 1042 | 7.9 | | | | | 0 / 0.00 | 257 / 4.21 | | 113 / 3.18 | | | 0.28 | | | | 47 | 257 | | 5+ | | [illegible] |
| Dec 12 1030 | 4.3 | 59 | 6.2 | 61 | 960 | 7.9 | | | | | 0 / 0.00 | 246 / 4.03 | | 64 / 1.80 | | | 0 | | | | 42 | 255 | | 5+ | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 1460 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 620 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Rio Hondo at Whittier Narrows** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1035 | 4.6 | 57 | 11.6 | 112 | 811 | 8.4 | | | | | 0 / 0.00 | 244 / 4.00 | | 64 / 1.80 | | | 0.13 | | | | 43 | 223 | | -5 | | DWR |
| Feb 15 1045 | 6.6 | 63 | 8.8 | 90 | 962 | 8.2 | | | | | 0 / 0.00 | 271 / 4.44 | | 85 / 2.40 | | | 0.36 | | | | 38 | 288 | | 9 | | DWR |
| Mar 6 1040 | 6.4 | 63 | 7.0 | 72 | 2532 | 8.4 | | | | | 0 / 0.00 | 342 / 5.61 | | 312 / 8.80 | | | 0.48 | | | | 72 | 328 | | 45 | | DWR |
| Apr 10 1055 | 7.6 | 63 | 8.8 | 90 | 995 | 8.3 | | | | | 0 / 0.00 | 234 / 3.84 | | 76 / 2.14 | | | 0.06 | | | | 47 | 265 | | -5 | | DWR |
| May 16 1150 | 8.0 | 90 | 10.2 | 140 | 694 | 8.4 | 60 / 2.99 | 22 / 1.81 | 54 / 2.35 | 5.5 / 0.14 | 0 / 0.00 | 264 / 4.32 | 72 / 1.50 | 50 / 1.41 | 2.5 / 0.04 | 1.2 / 0.063 | 0.24 | 25 | $PO_4$ 2.0 ; (a) | 426[b] | 32 | 240 | 24 | 20 | | DWR |
| June 12 1000 | 10 | 81 | 7.6 | 95 | 898 | 8.4 | | | | | 0 / 0.00 | 261 / 4.28 | | 75 / 2.12 | | | 0.21 | | | | 32 | 299 | | -5 | | DWR |
| July 10 0955 | 3.8 | 77 | 9.4 | 112 | 821 | 8.2 | | | | | 0 / 0.00 | 266 / 4.36 | | 54 / 1.52 | | | 0.05 | | | | 32 | 279 | | -5 | | DWR |
| Aug 7 1050 | 3.2 | 82 | 11.0 | 139 | 887 | 8.4 | | | | | 10 / 0.33 | 242 / 3.97 | | 67 / 1.89 | | | 0.12 | | | | 37 | 287 | | -5 | | DWR |
| Sept 12 0015 | 3.1 | 64 | 7.2 | 75 | 919 | 7.7 | 78 / 3.89 | 23 / 1.89 | 80 / 3.48 | 6.5 / 0.166 | 0.0 / 0.00 | 266 / 4.36 | 154 / 3.20 | 63 / 1.78 | 7.25 / 0.117 | 0.9 / 0.047 | 0.18 | 30 | $PO_4$ 2.0; (a) Zn 0.26 | 615[c] | 37 | 289 | 71 | -5 | | DWR |
| Oct 8 1405 | 4.2 | 75 | 5.0 | 59 | 1101 | 7.9 | | | | | 0 / 0.00 | 234 / 3.84 | | 86 / 2.43 | | | 0.22 | | | | 40 | 331 | | -5 | | DWR |
| Nov 8 1015 | 3.2 | 67 | 9.5 | 102 | 838 | 8.3 | | | | | 0 / 0.00 | 264 / 4.33 | | 52 / 1.47 | | | 0.14 | | | | 35 | 279 | | -5 | | DWR |
| Dec 11 1100 | 4.7 | 57 | 9.0 | 87 | 806 | 7.7 | | | | | 10 / 0.33 | 234 / 3.84 | | 52 / 1.47 | | | 0.16 | | | | 33 | 273 | | -5 | median 1000 minimum 23 maximum 7000+ | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Calculated determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated.

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Gabriel River at Whittier Narrows | | | | | | | | | | | | | | | | | | | |
| 1965 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1130 | 431 | 43 | 11.4 | 93 | 157 | 8.2 | | | | | 0 / 0.00 | 103 / 1.69 | | 3 / 0.085 | | | 0.06 | | | | 17 | 70 | | 3200 | | Lab k |
| Feb 8 1100 | Est 8.0 | 62 | 16.6 | 171 | 641 | 8.4 | | | | | 0 / 0.00 | 237 / 3.88 | | 21 / 0.59 | | | 0.10 | | | | 15 | 242 | | 5- | | Lab k |
| Mar 8 1130 | 7.5 | 68 | 15.8 | 162 | 597 | 8.4 | | | | | 12 / 0.40 | 210 / 3.44 | | 13 / 0.37 | | | 0.10 | | | | 15 | 269 | | 10 | | Lab k |
| Apr 4 1130 | Est 4 | 62 | 14.8 | 152 | 599 | 8.4 | | | | | 0 / 0.00 | 249 / 4.08 | | 21 / 0.59 | | | 0.06 | | | | 14 | 269 | | 5- | | Lab k |
| May 5 1035 | Est 7 | 72 | 18.0 | 205 | 583 | 8.4 | 75 / 3.74 | 15 / 1.23 | 22 / 0.96 | 4.5 / 0.12 | 12 / 0.40 | 220 / 3.60 | 68 / 1.41 | 22 / 0.62 | 7.4 / 0.12 | 0.4 / 0.02 | 0.04 | 18 | | 350 | 16 | 248 | 48 | 7 | | Lab k |
| Jun 6 1745 | Est 9.0 | 75 | 18.4 | 216 | 382 | 8.4 | | | | | 10 / 0.33 | 117 / 1.92 | | 14 / 0.39 | | | 0.08 | | | | 20 | 149 | | 5- | | Lab k |
| Jul 11 1130 | Est 2 | 75 | 15.2 | 178 | 377 | 8.4 | | | | | 5 / 0.17 | 171 / 2.80 | | 14 / 0.39 | | | 0.01 | | | | 18 | 172 | | 5- | | Lab k |
| Aug 9 1100 | Ponded | 79 | 8.2 | 100 | 462 | 8.0 | | | | | 2 / 0.07 | 205 / 3.36 | | 15 / 0.42 | | | 0.04 | | | | 11 | 216 | | 5- | | Lab k |
| Sep 13 1130 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 11 1445 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 7 0935 | Est 100 | 57 | 9.6 | 93 | 1188 | 8.4 | | | | | 0 / 0.00 | 144 / 2.36 | | 99 / 2.79 | | | 0.24 | | | | 38 | 354 | | 180 | | Lab k |
| Dec 13 1100 | Est 100 | 54 | 10.8 | 100 | 1192 | 8.4 | | | | | 0 / 0.00 | 151 / 2.47 | | 98 / 2.77 | | | 0.07 | | | | 38 | 367 | | 46 | | Lab k |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **San Gabriel River at Whittier Narrows** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1140 | Est 2 | 55 | 18.0 | 170 | 656 | 8.4 | | | | | 10 / 0.33 | 203 / 3.33 | | 30 / 0.85 | | | 0.05 | | | | 15 | 281 | | -5 | | DWR |
| Feb 15 1215 | Est 10 | 63 | 14.0 | 144 | 508 | 8.4 | | | | | 12 / 0.40 | 161 / 2.64 | | 23 / 0.64 | | | 0.26 | | | | 20 | 208 | | -5 | | DWR |
| Mar 6 1140 | Est 2 | 63 | 12.2 | 126 | 505 | 8.4 | | | | | 7 / 0.23 | 193 / 3.16 | | 21 / 0.59 | | | 0.20 | | | | 18 | 208 | | -5 | | DWR |
| Apr 10 1210 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 16 1030 | Est 125 | 66 | 9.2 | 98 | 1155 | 8.4 | 82 / 4.09 | 36 / 2.96 | 105 / 4.57 | 10.0 / 0.256 | 0 / 0.00 | 159 / 2.60 | 319 / 6.64 | 98 / 2.76 | 2.0 / 0.032 | 0.6 / 0.032 | 0.12 | 10 | $PO_4$ 0.2 | 742[b] | 39 | 352 | 222 | 125 | | DWR |
| June 12 1045 | Est 1 | 86 | 15.4 | 202 | 360 | 8.5 | | | | | 10 / 0.33 | 139 / 2.28 | | 14 / 0.39 | | | 0.21 | | | | 18 | 147 | | -5 | | DWR |
| July 10 1045 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 7 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept 12 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 8 1435 | No Record | 77 | 10.0 | 119 | 1269 | 8.4 | | | | | 0 / 0.00 | 142 / 2.33 | | 112 / 3.16 | | | 0.23 | | | | 38 | 386 | | -5 | | DWR |
| Nov 8 1100 | Est 75 | 63 | 9.5 | 98 | 1272 | 8.5 | | | | | 0 / 0.00 | 159 / 2.61 | | 110 / 3.10 | | | 0.21 | | | | 40 | 390 | | 32 | | DWR |
| Dec 11 1200 | Est 0.5 | 57 | 13.0 | 125 | 755 | 8.2 | | | | | 19 / 0.63 | 176 / 2.88 | | 54 / 1.52 | | | 0.10 | | | | 28 | 289 | | -5 | median 18 minimum .6 maximum 240 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Gabriel River near Azusa | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1000 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 16 1100 | Dry | 54 | 12.0 | | 345 | 8.4 | 49 / 2.45 | 12 / 0.99 | 14 / 0.61 | 3.4 / 0.087 | 0 / 0.00 | 200 / 3.28 | 32 / 0.66 | 4 / 0.11 | 0 / 0.0 | | 0.02 | | | 215 | 15 | 172 | 8 | 5- | | |
| Mar 16 1045 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 5 1105 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 11 1125 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun 6 1000 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 12 1045 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 17 1100 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 20 1700 | 0.2 | 68 | 8.0 | 65 | 1096 | 7.4 | 72 / 3.59 | 20 / 1.64 | 126 / 5.48 | 5.4 / 0.138 | 0 / 0.00 | 173 / 2.84 | 268 / 5.59 | 85 / 2.40 | 3.5 / 0.056 | 0.4 / 0.021 | 0.16 | 20 | $PO_4$ 0.05; (a) | 655 | 51 | 262 | 120 | 5- | | DWR |
| Oct 11 1400 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 7 1100 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 21 1130 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 4.1 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .45- | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 60 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 4

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Gabriel River near Azusa | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1045 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 16 1015 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar 14 1030 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 18 1005 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 0930 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| June 20 1000 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| July 18 0945 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 10 1635 | 39 | 58 | 10.5 | 101 | 378 | 8.6 | 46 / 2.30 | 13 / 1.07 | 12 / 0.52 | 3.3 / 0.084 | 0 / 0.00 | 198 / 3.25 | 26 / 0.54 | 8 / 0.23 | 0.7 / 0.011 | 0.6 / 0.032 | 0.01 | 10 | | 224 | 13 | 170 | | -5 | | DWR |
| Nov 8 0835 | Est. 41 | 55 | 10.5 | 99 | 382 | 8.7 | | | | | 0 / 0.00 | 205 / 3.36 | | 4 / 0.11 | | | 0.05 | | | | 11 | 182 | | --5 | | DWR |
| Dec | Dry | | | | | | | | | | | | | | | | | | | | | | | | median 4.5 - minimum .45 - maximum 6 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 4

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Santa Clara River at Los Angeles-Ventura County Line** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1400 | 80 | 48 | 10.0 | 86 | 1265 | 8.1 | | | | | 0 / 0.00 | 204 / 3.34 | | 62 / 1.75 | | | 0.44 | | | | 29 | 512 | | 2300 | | DWR |
| Feb 7 1030 | 16.0 | 52 | 15.0 | 136 | 1724 | 8.4 | | | | | 0 / 0.00 | 344 / 5.64 | | 65 / 1.83 | | | 0.46 | | | | 30 | 743 | | 5+ | | DWR |
| Mar 7 1025 | 15.8 | 59 | 11.8 | 116 | 1748 | 8.4 | | | | | 0 / 0.00 | 315 / 5.16 | | 65 / 1.83 | | | 0.36 | | | | 30 | 696 | | 28 | | DWR |
| Apr 6 1015 | 5.0 | 59 | 11.0 | 108 | 1923 | 8.4 | | | | | 0 / 0.00 | 320 / 5.25 | | 78 / 2.20 | | | 0.58 | | | | 30 | 737 | | 20 | | DWR |
| May 10 1105 | 14.8 | 77 | 9.0 | 107 | 1880 | 8.0 | 211 / 10.53 | 65 / 5.34 | 156 / 6.79 | 5.7 / 0.15 | 14 / 0.48 | 351 / 5.76 | 696 / 14.50 | 69 / 1.95 | 1.0 / 0.02 | 1.0 / 0.05 | 0.92 | 20 | | 1485 | 30 | 794 | 482 | 60 | | DWR |
| Jun 6 1030 | 9.0 | 72 | 10.0 | 113 | 2070 | 8.2 | | | | | 0 / 0.00 | 317 / 5.20 | | 76 / 2.14 | | | 0.62 | | | | 29 | 836 | | 90 | | DWR |
| Jul 12 1100 | 2.2 | 79 | 10.6 | 129 | 1835 | 8.4 | | | | | 0 / 0.00 | 288 / 4.72 | | 74 / 2.09 | | | 0.96 | | | | 29 | 850 | | 5+ | | DWR |
| Aug 8 1010 | 1.2 | 77 | 10.0 | 120 | 2740 | 8.4 | | | | | | 300 / 4.92 | | 146 / 4.12 | | | 1.52 | | | | 35 | 944 | | 8 | | DWR |
| Sep 14 1105 | 0.42 | 82 | 9.8 | 124 | 3086 | 8.4 | 229 / 11.43 | 126 / 10.36 | 400 / 17.40 | 6.5 / 0.166 | 0.0 / 0.0 | 329 / 5.40 | 1343 / 27.98 | 184 / 5.19 | 0.0 / 0.0 | 1.2 / 0.063 | 0.94 | 10 | $PO_4$ 0.05; (a) | 2689 | 44 | 1090 | 820 | 5+ | | DWR |
| Oct 12 1100 | 1.0 | 77 | 11.4 | 136 | 3021 | 8.3 | | | | | | 303 / 4.97 | | 161 / 4.54 | | | 1.04 | | | | 42 | 980 | | 5+ | | DWR |
| Nov 8 1045 | 0.82 | 63 | 12.0 | 123 | 3144 | 8.4 | | | | | 0 / 0.00 | 349 / 5.72 | | 174 / 4.90 | | | 0.5 | | | | 42 | 1042 | | 5+ | | DWR |
| Dec 14 0945 | 1.25 | 50 | 10.8 | 95 | 2969 | 8.2 | | | | | 0 / 0.00 | 351 / 5.75 | | 160 / 4.51 | | | 0.47 | | | | 39 | 1069 | | 5+ | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 1.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.0/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | Santa Clara River at Los Angeles-Ventura County Line | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 9 1100 | 1.5 | 50 | 11.8 | 104 | 2808 | 8.4 | | | | | 10 / 0.33 | 342 / 5.61 | | 145 / 4.09 | | | 0.85 | | | | 39 | 991 | | -5 | | DWR |
| Feb 14 1030 | 17.8 | 54 | 10.4 | 96 | 2028 | 8.1 | | | | | 0 / 0.00 | 361 / 5.92 | | 78 / 2.20 | | | 1.15 | | | | 30 | 815 | | -5 | | DWR |
| Mar 5 1100 | 16.5 | 61 | 9.8 | 90 | 1942 | 8.3 | | | | | 0 / 0.00 | 325 / 5.33 | | 77 / 2.17 | | | 1.30 | | | | 30 | 767 | | 11 | | DWR |
| Apr 9 1050 | 4.9 | 68 | 10.4 | 113 | 2347 | 8.2 | | | | | 0 / 0.00 | 303 / 4.97 | | 115 / 3.24 | | | 0.58 | | | | 37 | 874 | | -5 | | DWR |
| May 14 0840 | 12.4 | 63 | 9.6 | 100 | 1835 | 8.2 | 189 / 9.43 | 75 / 6.17 | 156 / 6.79 | 9.5 / 0.243 | 0 / 0.00 | 364 / 5.96 | 682 / 14.20 | 74 / 2.09 | 2.8 / 0.045 | 0.7 / 0.037 | 0.46 | 20 | $PO_4$ 0.0; (a) | 1392[b] | 30 | 780 | 482 | 30 | | DWR |
| June 11 0955 | Est 2 | 79 | 10.2 | 112.5 | 1739 | 8.4 | | | | | 0 / 0.00 | 281 / 4.61 | | 72 / 2.03 | | | 0.64 | | | | 27 | 721 | | -5 | | DWR |
| July 9 0915 | 1.2 | 72 | 11.0 | 125 | 2639 | 8.3 | | | | | 0 / 0.00 | 373 / 6.11 | | 137 / 3.86 | | | 0.72 | | | | 37 | 949 | | -5 | | DWR |
| Aug 6 1000 | 0.86 | 77 | 9.6 | 115 | 3030 | 8.0 | | | | | 0 / 0.00 | 395 / 6.47 | | 168 / 4.74 | | | 0.88 | | | | 40 | 1075 | | -5 | | DWR |
| Sept 11 1030 | 0.66 | 77 | 10.2 | 122 | 3257 | 8.1 | 246 / 12.28 | 128 / 10.52 | 385 / 16.75 | 6.6 / 0.169 | 0 / 0.00 | 386 / 6.32 | 1355 / 28.23 | 195 / 5.50 | 0.4 / 0.006 | 1.0 / 0.052 | 1.15 | 20 | $PO_4$ 0.12; (a) | 2747[c] | 42 | 1140 | 824 | -5 | | DWR |
| Oct 9 0930 | 0.6 | 64 | 10.6 | 111 | 3257 | 8.2 | | | | | 0 / 0.00 | 288 / 4.72 | | 183 / 5.16 | | | 1.14 | | | | 43 | 1054 | | -5 | | DWR |
| Nov 7 0950 | 0.7 | 63 | 12.5 | 129 | 3636 | 8.2 | | | | | 0 / 0.00 | 403 / 6.61 | | 162 / 4.57 | | | 1.42 | | | | 35 | 1450 | | -5 | | DWR |
| Dec 10 1045 | 0.9 | 57 | 13.6 | 131 | 2940 | 8.3 | | | | | 0 / 0.00 | 364 / 5.97 | | 190 / 5.36 | | | 1.16 | | | | 40 | 1170 | | -5 | median 13 | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .45 – | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.0/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Santa Clara River near Santa Paula | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 1530 | Est 100 | 50 | 9.0 | 79 | 1754 | 8.0 | | | | | 0 / 0.00 | 256 / 4.20 | | 66 / 1.85 | | | 0.96 | | | | 23 | 711 | | 1,000 | | DWR |
| Feb 7 1200 | Est 40 | 59 | 12.0 | 108 | 2043 | 8.2 | | | | | 0 / 0.00 | 312 / 5.11 | | 82 / 2.31 | | | 0.73 | | | | 30 | 824 | | 5- | | DWR |
| Mar 7 1130 | Est 25 | 59 | 11.4 | 117 | 2028 | 8.1 | | | | | 12 / 0.40 | 288 / 4.72 | | 82 / 2.31 | | | 0.64 | | | | 29 | 811 | | 12 | | DWR |
| Apr 6 1145 | Est 20 | 59 | 12.0 | 118 | 2128 | 8.0 | | | | | 22 / 0.73 | 285 / 4.67 | | 93 / 2.62 | | | 0.86 | | | | 26 | 894 | | 5- | | DWR |
| May 10 1300 | Est 50 | 70 | 8.6 | 96 | 1307 | 7.8 | 145 / 7.24 | 45 / 3.70 | 93 / 4.05 | 4.4 / 0.11 | 0 / 0.00 | 285 / 4.67 | 456 / 9.51 | 42 / 1.18 | 0 / 0.0 | 1.2 / 0.06 | 1.54 | 20 | | 970 | 27 | 547 | 313 | 975 | | DWR |
| Jun 6 1145 | Est 35 | 64 | 11.6 | 102 | 2180 | 8.1 | | | | | 0 / 0.00 | 324 / 5.30 | | 92 / 2.59 | | | 0.32 | | | | 20 | 940 | | 5- | | DWR |
| Jul 12 1200 | Est 25 | 68 | 12.4 | 126 | 2083 | 8.4 | | | | | 0 / 0.00 | 249 / 4.08 | | 66 / 1.86 | | | 0.83 | | | | 41 | 730 | | 5 | | DWR |
| Aug 2 1215 | Est 20 | 72 | 11.6 | 132 | 1486 | 8.4 | | | | | | 229 / 3.75 | | 55 / 1.55 | | | 0.62 | | | | 25 | 620 | | 5- | | DWR |
| Sep 14 1315 | Est 15 | 75 | 10.0 | 117 | 1486 | 8.4 | 174 / 3.68 | 62 / 5.10 | 110 / 4.79 | 5.2 / 0.133 | 0.0 / 0.0 | 305 / 5.00 | 563 / 11.72 | 56 / 1.58 | 0.5 / 0.008 | 0.8 / 0.042 | 0.32 | 20 | $PO_4$ 0.14; (a) | 1256 | 26 | 689 | 439 | 5- | | DWR |
| Oct 12 1325 | Est 15 | 68 | 10.2 | 112 | 1664 | 8.2 | | | | | | 312 / 5.11 | | 53 / 1.49 | | | 0.70 | | | | 26 | 693 | | 5- | | DWR |
| Nov 8 1[illegible] | Est 20 | 63 | 10.2 | 105 | 1579 | 8.2 | | | | | 0 / 0.00 | 272 / 4.46 | | 52 / 1.47 | | | 0.68 | | | | 27 | 636 | | 5- | | DWR |
| Dec 14 1045 | Est 30 | 54 | 9.2 | 85 | 1603 | 8.0 | | | | | 0 / 0.00 | 315 / 5.16 | | 57 / 1.61 | | | 0 | | | | 25 | 708 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 13
## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Santa Clara River near Santa Paula | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 9 1200 | Est 25 | 55 | 12.8 | 121 | 2179 | 8.2 | | | | | 0 / 0.00 | 332 / 5.44 | | 94 / 2.65 | | | 0.92 | | | | 26 | 911 | | -5 | | DWR |
| Feb 14 1215 | Est 40 | 59 | 10.4 | 103 | 2342 | 7.9 | | | | | 0 / 0.00 | 332 / 5.44 | | 98 / 2.77 | | | 1.78 | | | | 29 | 949 | | -5 | | DWR |
| Mar 5 1230 | Est 40 | 61 | 11.8 | 119 | 1890 | 8.2 | | | | | 10 / 0.33 | 293 / 4.80 | | 81 / 2.28 | | | 1.55 | | | | 25 | 783 | | -5 | | DWR |
| Apr 9 1240 | Est 30 | 64 | 16.2 | 170 | 1862 | 8.4 | | | | | 0 / 0.00 | 275 / 4.51 | | 77 / 2.17 | | | 0.68 | | | | 28 | 764 | | -5 | | DWR |
| May 14 1120 | Est 20 | 67 | 8.6 | 93 | 1271 | 8.1 | 138 / 6.89 | 46 / 3.78 | 81 / 3.52 | 9.3 / 0.238 | 0 / 0.00 | 273 / 4.48 | 412 / 8.58 | 45 / 1.27 | 3.0 / 0.048 | 0.8 / 0.042 | 0.60 | 25 | $PO_4$ 0.0 | 898[b] | 24 | 533 | 309 | 18 | | DWR |
| June 11 1200 | Est 25 | 75 | 14.4 | 169 | 2160 | 8.4 | | | | | 0 / 0.00 | 299 / 4.90 | | 103 / 2.90 | | | 0.92 | | | | 35 | 792 | | -5 | | DWR |
| July 9 1030 | Est 20 | 68 | 11.6 | 126 | 1799 | 8.2 | | | | | 0 / 0.00 | 334 / 5.47 | | 70 / 1.97 | | | 0.62 | | | | 25 | 774 | | -5 | | DWR |
| Aug 6 1115 | Est 20 | 70 | 11.4 | 127 | 1838 | 8.0 | | | | | 0 / 0.00 | 344 / 5.64 | | 73 / 2.06 | | | 0.52 | | | | 25 | 802 | | -5 | | DWR |
| Sept 11 1200 | Est 8.0 | 70 | 9.8 | 109 | 1773 | 7.9 | 197 / 9.83 | 68 / 5.59 | 125 / 5.44 | 5.6 / 0.143 | 0 / 0.00 | 338 / 5.54 | 658 / 13.71 | 68 / 1.92 | 1.25 / 0.020 | 0.9 / 0.047 | 0.80 | 25 | $PO_4$ 0.12; (a) | 1525[c] | 26 | 771 | 494 | -5 | | DWR |
| Oct 9 1105 | Est 18 | 61 | 7.4 | 94 | 2342 | 7.6 | | | | | 0 / 0.00 | 251 / 4.11 | | 109 / 3.07 | | | 1.00 | | | | 32 | 909 | | -5 | | DWR |
| Nov 7 1105 | 15.0 | 60 | 9.0 | 90 | 1876 | 8.0 | | | | | 0 / 0.00 | 344 / 5.64 | | 74 / 2.09 | | | 0.98 | | | | 27 | 792 | | -5 | | DWR |
| Dec 10 1200 | Est 25 | 54 | 10.4 | 98 | 1503 | 7.9 | | | | | 7 / 0.23 | 244 / 4.00 | | 68 / 1.92 | | | 0.72 | | | | 26 | 695 | | -5 | median 62 | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700 + | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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Region 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Santa Clara River at Blue Cut** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 1400 | 14.8 | 79 | 9.0 | 110 | 2058 | 8.0 | 216 / 10.78 | 76 / 6.25 | 176 / 7.66 | 5.8 / 0.15 | 0 / 0.00 | 390 / 6.40 | 769 / 16.02 | 75 / 2.11 | 1.0 / 0.02 | 1.1 / 0.06 | 0.76 | 20 | | 1535[b] | 31 | 852 | 532 | 80 | | DWR |
| Sept. 14 1215 | Est. 1 | 79 | 11.0 | 134 | 3425 | 8.4 | 278 / 13.87 | 168 / 13.81 | 340 / 14.79 | 7.6 / 0.20 | 0 / 0.00 | 339 / 5.56 | 1570 / 32.71 | 142 / 4.00 | 0 / 0.00 | 0.7 / 0.037 | 0.74 | 10 | $PO_4$ 0.15; (a) | 2687[b] | 35 | 1384 | 1106 | -5 | median 34 minimum 6 maximum 62 | DWR |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 14 0950 | 12.4 | 65 | 9.0 | 95 | 1923 | 8.2 | 194 / 9.68 | 84 / 6.90 | 168 / 7.31 | 8.2 / 0.21 | 0 / 0.00 | 356 / 5.84 | 760 / 15.83 | 78 / 2.20 | 2.5 / 0.040 | 0.8 / 0.042 | 0.58 | 20 | | 1494[b] | 30 | 829 | 537 | 35 | | DWR |
| Sept. 11 1050 | 0.66 | 77 | 11.4 | 136 | 3484 | 8.0 | 307 / 15.32 | 160 / 14.15 | 352 / 15.31 | 7.6 / 0.20 | 0 / 0.00 | 384 / 6.30 | 1623 / 33.82 | 155 / 4.37 | 1.0 / 0.02 | 1.2 / 0.06 | 1.03 | 20 | $PO_4$ 0.13; (a) | 2820[b] | 34 | 1474 | 1159 | -5 | median 235 minimum 62 maximum 700 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

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d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 4

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Ventura River near Ventura | | | | | | | | | | | | | | | | | | | |
| 1965 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1650 | 0.85 | 50 | 10.4 | 92 | 976 | 7.2 | | | | | 11 / 0.37 | 232 / 3.80 | | 53 / 1.49 | | | 0.36 | | | | 22 | 407 | | 5- | | DWR |
| Feb 7 1310 | 0.8 | 54 | 12.0 | 121 | 1163 | 7.4 | | | | | 0 / 0.00 | 303 / 4.97 | | 60 / 1.69 | | | 0.46 | | | | 20 | 501 | | 5- | | DWR |
| Mar 7 1315 | 2.9 | 59 | 12.7 | 148 | 1111 | 8.1 | | | | | 16 / 0.33 | 268 / 4.39 | | 59 / 1.66 | | | 0.46 | | | | 22 | 474 | | 5- | | DWR |
| Apr 6 1345 | 0.3 | 61 | 11.7 | 110 | 1170 | 7.3 | | | | | 12 / 0.83 | 264 / 4.33 | | 62 / 1.75 | | | 0.48 | | | | 22 | 470 | | 5- | | DWR |
| May 17 1245 | 1.4 | 64 | 10.8 | 140 | 1 5 | 7.5 | 157 / 3.94 | 33 / 2.71 | 60 / 2.61 | 2.0 / 0.05 | 0 / 0.00 | 315 / 5.16 | 284 / 5.90 | 60 / 1.69 | 1.0 / 0.02 | 0.5 / 0.03 | 0.44 | 18 | | 735 | 22 | 478 | 220 | 5- | | DWR |
| Jun 4 1300 | 1.5 | 74 | 10.0 | 105 | 1155 | 7.6 | | | | | 12 / 0.40 | 295 / 4.84 | | 64 / 1.80 | | | 0.42 | | | | 23 | 468 | | 5- | | DWR |
| Jul 12 1330 | 0.4 | 68 | 9.4 | 103 | 1068 | 7.5 | | | | | 0 / 0.00 | 305 / 5.00 | | 67 / 1.89 | | | 0.46 | | | | 24 | 467 | | 5- | | DWR |
| Aug 8 1430 | 0.8 | 66 | 7.4 | 79 | 1125 | 7.6 | | | | | | 298 / 4.88 | | 68 / 1.92 | | | 1.32 | | | | 19 | 530 | | 5- | | DWR |
| Sep 14 1410 | 0.5 | 66 | 5.4 | 52 | 1412 | 7.4 | 157 / 3.83 | 36 / 2.96 | 63 / 2.74 | 2.0 / 0.051 | 0 / 0.00 | 317 / 5.20 | 267 / 5.39 | 62 / 1.75 | 0.5 / 0.008 | 0.6 / 0.032 | 0.44 | 20 | $PO_4$ 0.04; (a) | 868 | 20 | 540 | 280 | 5- | | DWR |
| Oct 12 1415 | 0.4 | 61 | 6.8 | 68 | 1225 | 7.3 | | | | | | 305 / 5.00 | | 70 / 1.97 | | | 0.64 | | | | 20 | 539 | | 5- | | DWR |
| Nov 8 1330 | Est 0.01 | 57 | 6.4 | 62 | 1256 | 7.2 | | | | | 0 / 0.00 | 332 / 5.44 | | 71 / 2.00 | | | 0.60 | | | | 19 | 561 | | 5- | | DWR |
| Dec 14 1400 | Pond | 52 | 6.2 | 56 | 1527 | 7.2 | | | | | 0 / 0.00 | 342 / 5.61 | | 140 / 3.95 | | | 0.47 | | | | 27 | 601 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 37 minimum .45- maximum 240 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 4

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Ventura River near Ventura** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 9 1300 | ponded | 50 | 13.0 | 115 | 1298 | 7.4 | | | | | 0 / 0.00 | 312 / 5.11 | | 87 / 2.45 | | | 0.42 | | | | 21 | 554 | | -5 | | DWR |
| Feb 14 1320 | 12 | 57 | 12.4 | 120 | 1046 | 8.1 | | | | | 0 / 0.00 | 285 / 4.67 | | 56 / 1.58 | | | 0.76 | | | | 20 | 435 | | -5 | | DWR |
| Mar 5 1330 | 10 | 55 | 13.2 | 113 | 1074 | 8.1 | | | | | 0 / 0.00 | 290 / 4.75 | | 55 / 1.55 | | | 0.68 | | | | 21 | 441 | | -5 | | DWR |
| Apr 9 1335 | 4.9 | 63 | 15.6 | 160 | 1105 | 8.3 | | | | | 0 / 0.00 | 281 / 4.61 | | 60 / 1.69 | | | 0.48 | | | | 21 | 462 | | -5 | | DWR |
| May 14 1240 | 7.8 | 68 | 10.9 | 119 | 962 | 8.2 | 111 / 5.54 | 35 / 2.88 | 54 / 2.35 | 6.0 / 0.154 | 0 / 0.00 | 310 / 5.08 | 202 / 4.20 | 51 / 1.44 | 3.0 / 0.048 | 0.6 / 0.032 | 0.42 | 20 | $PO_4$ 0.0 ; (a) | 638[b] | 22 | 421 | 167 | -5 | | DWR |
| June 11 1345 | 3.9 | 72 | 16.2 | 184 | 1055 | 8.4 | | | | | 0 / 0.00 | 290 / 4.75 | | 53 / 1.49 | | | 0.72 | | | | 20 | 457 | | -5 | | DWR |
| July 9 1305 | 0.7 | 68 | 14.6 | 159 | 1178 | 7.6 | | | | | 0 / 0.00 | 322 / 5.28 | | 60 / 1.69 | | | 0.43 | | | | 20 | 509 | | -5 | | DWR |
| Aug 6 1245 | ponded | 68 | 14.0 | 153 | 1083 | 7.8 | | | | | 0 / 0.00 | 334 / 5.47 | | 60 / 1.69 | | | 0.41 | | | | 23 | 446 | | -5 | | DWR |
| Sept 11 1245 | ponded | 68 | 8.0 | 87 | 1215 | 7.2 | 153 / 7.63 | 41 / 3.37 | 62 / 2.70 | 1.7 / 0.044 | 0 / 0.00 | 348 / 5.70 | 294 / 6.13 | 62 / 1.75 | 2.75 / 0.044 | 0.6 / 0.032 | 0.59 | 15 | $PO_4$ 0.14; (a) | 888[c] | 20 | 550 | 265 | -5 | | DWR |
| Oct 9 1215 | ponded | 63 | 6.0 | 62 | 1274 | 7.2 | | | | | 0 / 0.00 | 339 / 5.56 | | 60 / 1.69 | | | 0.61 | | | | 19 | 533 | | -5 | | DWR |
| Nov 7 1215 | 0.46 | 61 | 6.2 | 62 | 1164 | 7.8 | | | | | 0 / 0.00 | 322 / 5.28 | | 64 / 1.81 | | | 0.59 | | | | 21 | 519 | | -5 | | DWR |
| Dec 10 1400 | 0.5 | 51 | 9.4 | 80 | 1204 | 7.2 | | | | | 0 / 0.00 | 342 / 5.61 | | 61 / 1.72 | | | 0.54 | | | | 21 | 535 | | -5 | median 6.1 minimum .45 - maximum 700+ | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.0/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | American River at Sacramento | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1250 | 2,600 | 42 | 11.8 | 93 | 103 | 7.2 | 10 / 0.499 | 3.9 / 0.321 | 5.1 / 0.222 | 0.5 / 0.013 | 0 / 0.000 | 50 / 0.819 | | 4.0 / 0.113 | | | 0.00 | | | | 21 | 41 | 0 | 10 | | USGS |
| Feb 15 0940 | 1,190 | 46 | 10.8 | 90 | 92.1 | 7.2 | 9.3 / 0.464 | 3.4 / 0.276 | 3.7 / 0.161 | 0.5 / 0.013 | 0 / 0.000 | 46 / 0.754 | | 3.8 / 0.107 | | | 0.01 | | | | 18 | 37 | 0 | 1 | | USGS |
| Mar 18 1430 | 2,010 | 55 | 11.0 | 103 | 70.9 | 7.3 | 7.6 / 0.379 | 3.7 / 0.301 | 2.9 / 0.126 | 0.7 / 0.018 | 0 / 0.000 | 36 / 0.590 | | 2.5 / 0.071 | | | 0.00 | | | | 15 | 34 | 4 | 5 | | USGS |
| Apr 19 0920 | 170 | 53 | 11.1 | 101 | 83.4 | 7.2 | 3.8 / 0.190 | 5.5 / 0.454 | 3.3 / 0.143 | 0.8 / 0.020 | 0 / 0.000 | 38 / 0.623 | | 3.2 / 0.090 | | | 0.00 | | | | 18 | 32 | 1 | 6 | | USGS |
| May 16 0940 | 3,200 | 54 | 11.4 | 106 | 55.2 | 7.2 | 5.9 / 0.294 | 2.3 / 0.186 | 2.3 / 0.100 | 0.5 / 0.013 | 0 / 0.000 | 30 / 0.492 | 2.6 / 0.054 | 1.0 / 0.028 | 0.5 / 0.008 | 0.0 / 0.000 | 0.06 | 12 | Al 0.01; Zn 0.02; (a) $PO_4$ 0.05 | 42[b] | 17 | 24 | 0 | 1 | | USGS |
| Jun 20 0930 | 2,690 | 59 | 8.8 | 87 | 37.7 | 6.9 | 3.4 / 0.170 | 1.5 / 0.126 | 2.3 / 0.100 | 0.6 / 0.015 | 0 / 0.000 | 23 / 0.377 | | 0.2 / 0.006 | | | 0.05 | | | | 24 | 15 | 0 | 2 | | USGS |
| Jul 18 0715 | 1,910 | 62 | 8.0 | 81 | 57.2 | 6.8 | 4.3 / 0.215 | 2.2 / 0.185 | 3.2 / 0.139 | 1.0 / 0.026 | 0 / 0.000 | 17 / 0.279 | | 1.0 / 0.028 | | | 0.00 | | | | 25 | 20 | 6 | 2 | | USGS |
| Aug 22 0905 | 1,870 | 68 | 6.0 | 66 | 49.8 | 7.0 | 5.3 / 0.264 | 1.7 / 0.136 | 1.8 / 0.078 | 1.0 / 0.026 | 0 / 0.000 | 27 / 0.442 | | 0.5 / 0.014 | | | 0.11 | | | | 15 | 20 | 0 | 0.9 | | USGS |
| Sep 19 1030 | 520 | 70 | 7.8 | 87 | 63.1 | 7.3 | 7.0 / 0.349 | 2.1 / 0.175 | 2.2 / 0.096 | 1.0 / 0.026 | 0 / 0.000 | 34 / 0.557 | 1.8 / 0.037 | 1.1 / 0.031 | 0.2 / 0.003 | 0.2 / 0.011 | 0.02 | 11 | Fe 0.06; Cu 0.01; (a) | 44[b] | 15 | 26 | 0 | 2.0 | | USGS |
| Oct 14 1330 | 986 | 66 | 7.8 | 83 | 72.5 | 7.1 | 7.1 / 0.354 | 2.4 / 0.198 | 2.8 / 0.122 | 1.1 / 0.028 | 0 / 0.000 | 36 / 0.590 | | 1.8 / 0.051 | | | 0.00 | | | | 17 | 28 | 0 | 3 | | USGS |
| Nov 18 1430 | 511 | 52 | 9.8 | 89 | 73.5 | 7.1 | 8.4 / 0.419 | 1.8 / 0.145 | 3.2 / 0.139 | 1.0 / 0.026 | 0 / 0.000 | 37 / 0.606 | | 2.2 / 0.090 | | | 0.00 | | | | 19 | 28 | 0 | 40 | | USGS |
| Dec 16 1540 | 636 | 51 | 10.1 | 93 | 76.4 | 7.1 | 8.7 / 0.434 | 2.2 / 0.182 | 3.2 / 0.139 | 1.1 / 0.028 | 0 / 0.000 | 38 / 0.623 | | 2.3 / 0.093 | | | 0.00 | | | | 18 | 31 | 0 | 7 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 minimum .06 maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp. in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **American River at Sacramento** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1430 | 25,400 MD | 47 | 13.0 | 110 | 56.6 | 7.3 | 6.2 / 0.309 | 2.0 / 0.163 | 1.8 / 0.078 | 0.7 / 0.018 | 0 / 0.000 | 29 / 0.475 | | 0.9 / 0.025 | | | 0.03 | | | | 14 | 24 | 0 | 55 | | USGS |
| Feb 10 0835 | 7,040 MD | 43 | 12.2 | 98 | 60.4 | 7.1 | 8.1 / 0.404 | 0.8 / 0.066 | 2.2 / 0.096 | 0.7 / 0.018 | 0 / 0.000 | 31 / 0.508 | | 0.0 / 0.000 | | | 0.07 | | | | 16 | 24 | 0 | 45 | | USGS |
| Mar 16 1500 | 6,760 MD | 49 | 12.7 | 111 | 64.8 | 7.3 | 7.2 / 0.359 | 2.1 / 0.175 | 2.2 / 0.096 | 0.5 / 0.013 | 0 / 0.000 | 35 / 0.574 | | 1.5 / 0.042 | | | 0.02 | | | | 15 | 27 | 0 | 8 | | USGS |
| Apr 19 1440 | 2,830 MD | 54 | 11.9 | 110 | 57.1 | 7.3 | 5.6 / 0.279 | 2.2 / 0.177 | 2.1 / 0.091 | 0.7 / 0.018 | 0 / 0.000 | 32 / 0.524 | | 1.3 / 0.037 | | | 0.04 | | | | 16 | 23 | 0 | 3 | | USGS |
| May 11 1145 | 3,140 MD | 52 | 10.7 | 97 | 49.9 | 7.1 | 6.8 / 0.339 | 1.7 / 0.141 | 2.0 / 0.087 | 0.6 / 0.015 | 0 / 0.000 | 28 / 0.459 | 4.0 / 0.083 | 1.5 / 0.042 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 13 | Fe 0.03; $PO_4$ 0.05; (a) | 44[b] | 15 | 24 | 1 | 8 | | USGS |
| June 22 0815 | 4,170 MD | 56 | 10.1 | 96 | 42.1 | 6.8 | 4.8 / 0.240 | 1.3 / 0.104 | 1.6 / 0.070 | 0.7 / 0.018 | 0 / 0.000 | 25 / 0.410 | | 0.7 / 0.020 | | | 0.04 | | | | 16 | 17 | 0 | 1 | | USGS |
| July 25 1800 | 3,710 MD | 65 | 9.6 | 102 | 39.5 | 7.0 | 3.8 / 0.190 | 1.6 / 0.130 | 2.0 / 0.087 | 0.7 / 0.018 | 0 / 0.000 | 25 / 0.410 | | 0.4 / 0.011 | | | 0.06 | | | | 21 | 16 | 0 | 1 | | USGS |
| Aug 23 0850 | 3,610 MD | 60 | 9.0 | 90 | 38.3 | 6.9 | 4.4 / 0.220 | 1.0 / 0.080 | 1.5 / 0.065 | 0.7 / 0.018 | 0 / 0.000 | 23 / 0.377 | | 0.1 / 0.003 | | | 0.00 | | | | 17 | 15 | 0 | 0.8 | | USGS |
| Sept 21 0935 | 2,210 MD | 63 | 8.4 | 87 | 42.6 | 6.9 | 4.4 / 0.220 | 2.2 / 0.180 | 1.6 / 0.070 | 0.7 / 0.018 | 0 / 0.000 | 27 / 0.443 | 1.0 / 0.040 | 0.0 / 0.000 | 0.0 / 0.000 | 0.1 / 0.005 | 0.02 | 11 | Fe 0.01; Cu 0.04; $PO_4$ 0.00 (a) | 35[b] | 14 | 20 | 0 | 1 | | USGS |
| Oct 10 1315 | 1,160 MD | 66 | 9.2 | 98 | 54.0 | 6.8 | 6.4 / 0.319 | 1.1 / 0.091 | 2.2 / 0.096 | 1.0 / 0.026 | 0 / 0.000 | 27 / 0.443 | | 0.5 / 0.014 | | | 0.00 | | | | 18 | 20 | 0 | 0.7 | | USGS |
| Nov 16 1515 | 1,170 | 55 | 11.2 | 105 | 60.8 | 7.3 | 7.0 / 0.35 | 2.1 / 0.17 | 2.0 / 0.09 | 0.8 / 0.02 | 0 / 0.00 | 35 / 0.57 | | 1.8 / 0.05 | | | 0.00 | | | | 14 | 26 | 0 | 3 | | USGS |
| Dec 14 1505 | 924 | 52 | 11.0 | 100 | 62.6 | 7.1 | 6.4 / 0.32 | 2.4 / 0.20 | 2.3 / 0.10 | 1.0 / 0.03 | 0 / 0.00 | 31 / 0.51 | | 1.5 / 0.04 | | | 0.08 | | | | 15 | 26 | 1 | 3 | median 23 minimum .62 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Bear Creek near Stevinson | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1505 | | 43 | 11.5 | 92 | 379 | 7.8 | 23 / 1.148 | 9.4 / 0.772 | 45 / 1.957 | 3.9 / 0.100 | 0 / 0.000 | 162 / 2.655 | | 25 / 0.705 | | | 0.21 | | | | 49 | 96 | 0 | 10 | | [illegible] |
| Feb 8 1500 | | 52 | 11.3 | 102 | 498 | 8.0 | 32 / 1.60 | 12 / 1.00 | 55 / 2.39 | 3.4 / 0.09 | 0 / 0.00 | 184 / 3.02 | | 46 / 1.30 | | | 0.05 | | | | 47 | 130 | 0 | 35 | | [illegible] |
| Mar 10 1330 | | 61 | 10.9 | 110 | 695 | 8.2 | 42 / 2.10 | 16 / 1.34 | 78 / 3.39 | 3.9 / 0.10 | 0 / 0.00 | 173 / 2.84 | | 89 / 2.51 | | | 0.27 | | | | 49 | 172 | 30 | 55 | | [illegible] |
| Apr 14 0915 | | 60 | 9.0 | 90 | 970 | 8.0 | 52 / 2.59 | 18 / 1.51 | 120 / 5.22 | 4.6 / 0.12 | 0 / 0.00 | 181 / 2.97 | | 171 / 4.82 | | | 0.19 | | | | 55 | 205 | 57 | 25 | | [illegible] |
| May 19 0860 | | 66 | 7.8 | 83 | 828 | 8.4 | 51 / 2.54 | 19 / 1.54 | 106 / 4.61 | 4.4 / 0.11 | 0 / 0.00 | 204 / 3.34 | 89 / 1.85 | 130 / 3.67 | 1.1 / 0.02 | 0.4 / 0.02 | 0.29 | 20 | Al 0.005; (a) $PO_4$ 0.25 | 521[b] | 52 | 204 | 37 | 30 | | [illegible] |
| Jun 16 0820 | | 67 | 9.1 | 98 | 826 | 8.3 | 48 / 2.40 | 17 / 1.42 | 98 / 4.26 | 4.2 / 0.11 | 0 / 0.00 | 214 / 3.51 | | 122 / 3.44 | | | 0.36 | | | | 52 | 191 | 16 | 10 | | [illegible] |
| Jul 12 1400 | | 83 | | | 1060 | 8.1 | 38 / 1.90 | 25 / 2.04 | 146 / 6.35 | 5.4 / 0.14 | 0 / 0.00 | 207 / 3.39 | | 195 / 5.50 | | | 0.18 | | | | 61 | 197 | 27 | 30 | | [illegible] |
| Aug 15 1330 | | 82 | 9.4 | 118 | 1240 | 8.0 | 35 / 1.75 | 18 / 1.51 | 196 / 8.52 | 3.2 / 0.08 | 0 / 0.00 | 241 / 3.95 | | 228 / 6.43 | | | 0.11 | | | | 72 | 163 | 0 | 10 | | [illegible] |
| Sep 16 1230 | | 67 | 10.4 | 112 | 1400 | 7.5 | 44 / 2.20 | 18 / 1.49 | 223 / 9.70 | 4.0 / 0.10 | 0 / 0.00 | 253 / 4.15 | 75 / 1.56 | 276 / 7.78 | 1.1 / 0.02 | 0.6 / 0.03 | 0.22 | 31 | Fe 0.07; Cr 0.01; | 799[b] | 72 | 194 | 0 | 10 | | [illegible] |
| Oct 19 1430 | | 63 | 10.7 | 110 | 1710 | 7.9 | 45 / 2.25 | 22 / 1.85 | 289 / 12.57 | 3.5 / 0.09 | 6 / 0.20 | 242 / 5.61 | | 311 / 8.77 | | | 0.16 | | | | 75 | 205 | 0 | 30 | | [illegible] |
| Nov | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Not Rated in 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Bear Creek near Stevinson | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1400 | | 48 | 8.9 | 76 | 137 | 7.1 | 11 / 0.549 | 3.7 / 0.307 | 11 / 0.478 | 2.5 / 0.064 | 0 / 0.000 | 64 | | 5.3 / 0.149 | | | 0.06 | | | | 34 | 43 | 0 | 45 | | USGS |
| Feb 8 1215 | | 48 | 10.9 | 94 | 144 | 7.7 | 10 / 0.499 | 4.2 / 0.349 | 12 / 0.522 | 1.9 / 0.049 | 0 / 0.000 | 66 / 1.082 | | 5.6 / 0.158 | | | 0.09 | | | | 37 | 42 | 0 | 30 | | USGS |
| Mar 14 1445 | | 51 | 10.5 | 94 | 308 | 7.5 | 21 / 1.048 | 7.9 / 0.652 | 27 / 1.174 | 2.1 / 0.054 | 0 / 0.000 | 99 / 1.623 | | 28 / 0.790 | | | 0.17 | | | | 40 | 85 | 4 | 60 | | USGS |
| Apr 11 1320 | | 51 | 9.4 | 84 | 314 | 7.5 | 23 / 1.148 | 9.1 / 0.752 | 27 / 1.174 | 2.9 / 0.074 | 0 / 0.000 | 128 / 2.098 | | 26 / 0.733 | | | 0.38 | | | | 37 | 95 | 0 | 50 | | USGS |
| May 10 0745 | | 62 | 8.0 | 81 | 193 | 7.3 | 17 / 0.848 | 5.2 / 0.428 | 17 / 0.740 | 2.0 / 0.051 | 0 / 0.000 | 95 / 1.557 | 8.6 / 0.179 | 8.4 / 0.237 | 1.8 / 0.029 | 0.5 / 0.026 | 0.04 | 21 | Fe 0.22; Al 0.20; (a) | 129[b] | 36 | 64 | 0 | 50 | | USGS |
| June 13 1345 | | 72 | 8.4 | 95 | 104 | 7.0 | 8.8 / 0.439 | 3.4 / 0.281 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 54 / 0.885 | | 4.5 / 0.127 | | | 0.11 | | | | 37 | 36 | 0 | 80 | | USGS |
| July 18 1130 | | 80 | 9.3 | 115 | 399 | 7.1 | 24 / 1.198 | 7.6 / 0.622 | 48 / 2.088 | 2.6 / 0.067 | 0 / 0.000 | 130 / 2.131 | | 45 / 1.269 | | | 0.07 | | | | 53 | 91 | 0 | 50 | | USGS |
| Aug 13 1240 | | 80 | 10.5 | 129 | 940 | 8.0 | 36 / 1.80 | 12 / 1.01 | 142 / 6.13 | 2.8 / 0.07 | 0 / 0.00 | 188 / 3.08 | | 172 / 4.85 | | | 0.10 | | | | 68 | 141 | 0 | 25 | | USGS |
| Sept 19 0900 | | 69 | 7.6 | 84 | 293 | 7.1 | 19 / 0.948 | 7.8 / 0.644 | 32 / 1.392 | 2.3 / 0.059 | 0 / 0.000 | 144 / 2.360 | 11 / 0.229 | 16 / 0.451 | 1.7 / 0.027 | 0.0 / 0.000 | 0.03 | 27 | Fe 0.03; Al 0.17; Cu 0.01; Zn 0.01; $PO_4$ 0.40; (a) | 189[b] | 46 | 80 | 0 | 30 | | USGS |
| Oct 10 1010 | | 66 | 8.7 | 93 | 250 | 7.5 | 18 / 0.890 | 5.6 / 0.450 | 25 / 1.088 | 2.7 / 0.069 | 0 / 0.000 | 116 / 1.901 | | 17 / 0.479 | | | 0.03 | | | | 43 | 63 | 0 | 20 | | USGS |
| Nov 15 0945 | | 52 | 10.9 | 96 | 451 | 8.2 | 26 / 1.30 | 11 / 0.92 | 53 / 2.31 | 3.7 / 0.09 | 0 / 0.00 | 195 / 3.20 | | 39 / 1.10 | | | 0.02 | | | | 50 | 111 | 0 | 20 | | USGS |
| Dec 12 1100 | | 49 | 11.4 | 100 | 496 | 7.8 | 36 / 1.80 | 14 / 1.16 | 46 / 2.00 | 3.2 / 0.08 | 0 / 0.00 | 171 / 2.80 | | 63 / 1.78 | | | 0.02 | | | | 40 | 148 | 3 | 30 | | USGS |
| Not Rated in 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Bear River near Wheatland | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0850 | 698 | 41 | 12.9 | 100 | 92.4 | 7.0 | 10 / 0.499 | 3.4 / 0.281 | 2.7 / 0.117 | 0.6 / 0.015 | 0 / 0.000 | 39 / 0.639 | | 3.0 / 0.085 | | | 0.11 | | | | 13 | 39 | 7 | 65 | | [illegible] |
| Feb 9 0800 | 145 | 42 | 11.0 | 87 | 186 | 7.4 | 21 / 1.048 | 9.1 / 0.752 | 5.6 / 0.244 | 0.8 / 0.020 | 0 / 0.000 | 82 / 1.344 | | 4.8 / 0.135 | | | 0.00 | | | | 12 | 90 | 23 | 25 | | [illegible] |
| Mar 8 1245 | 188 | 55 | 10.0 | 94 | 169 | 7.6 | 21 / 1.048 | 6.7 / 0.552 | 4.8 / 0.209 | 1.2 / 0.031 | 0 / 0.000 | 70 / 1.147 | | 3.5 / 0.099 | | | 0.00 | | | | 11 | 80 | 23 | 240 | | [illegible] |
| Apr 5 1200 | 9.6 | 60 | 10.4 | 104 | 351 | 8.0 | 35 / 1.747 | 20 / 1.653 | 7.1 / 0.309 | 1.1 / 0.028 | 0 / 0.000 | 158 / 2.589 | | 6.6 / 0.186 | | | 0.01 | | | | 8 | 170 | 40 | 2 | | [illegible] |
| May 13 1130 | 240 | 71 | 9.0 | 101 | 106 | 7.9 | 11 / 0.549 | 5.0 / 0.411 | 2.5 / 0.152 | 0.7 / 0.018 | 0 / 0.000 | 51 / 0.836 | 8.6 / 0.179 | 3.2 / 0.107 | 0.0 / 0.000 | 0.0 / 0.000 | 0.00 | 12 | Fe 0.03; Al 0.005; Pb 0.005 (a) $PO_4$ 0.00 | 70[b] | 13 | 48 | 6 | 3 | | [illegible] |
| Jun 17 1220 | 22 | 81 | 8.7 | 108 | 262 | 7.8 | 30 / 1.497 | 12 / 0.951 | 5.8 / 0.252 | 1.2 / 0.031 | 0 / 0.000 | 127 / 2.081 | | 5.5 / 0.155 | | | 0.00 | | | | 9 | 122 | 18 | 0.2 | | [illegible] |
| Jul 15 1030 | 8.9 | 81 | 9.7 | 120 | 301 | 7.6 | 32 / 1.597 | 16 / 1.343 | 6.9 / 0.300 | 1.2 / 0.031 | 2 / 0.067 | 153 / 2.507 | | 6.5 / 0.183 | | | 0.08 | | | | 9 | 147 | 18 | 1 | | [illegible] |
| Aug 19 1020 | 6.4 | 79 | 9.2 | 112 | 280 | 7.8 | 31 / 1.547 | 13 / 1.093 | 6.6 / 0.287 | 1.2 / 0.031 | 0 / 0.000 | 149 / 2.442 | | 7.5 / 0.212 | | | 0.00 | | | | 10 | 132 | 10 | 70 | | [illegible] |
| Sep 16 1020 | 6.1 | 76 | 9.0 | 106 | [illegible] | 7.6 | 30 / 1.496 | 12 / 1.002 | 7.1 / 0.309 | 0.9 / 0.023 | 0 / 0.000 | 151 / 2.475 | 40 / 0.832 | 7.3 / 0.206 | 0.1 / 0.002 | 0.2 / 0.011 | 0.00 | 21 | Fe 0.01; Al 0.01; Cu 0.01; Zn 0.01; (a) | 158[b] | 9 | 145 | 21 | 0.4 | | [illegible] |
| Oct 14 1140 | 69 | 67 | 9.0 | [illegible] | 244 | 7.2 | 26 / 1.297 | 10 / 0.831 | 7.3 / 0.318 | 1.5 / 0.038 | 0 / 0.000 | 107 / 1.754 | | 9.0 / 0.254 | | | 0.02 | | | | 13 | [illegible] | 18 | 4 | | [illegible] |
| Nov 18 1000 | 80 | 48 | 11.0 | 95 | 248 | 7.1 | 26 / 1.297 | 9.5 / 0.785 | 7.0 / 0.304 | 1.8 / 0.046 | 0 / 0.000 | 96 / 1.573 | | 10 / 0.282 | | | 0.08 | | | | 14 | 104 | 25 | 10 | | [illegible] |
| Dec 16 1015 | 102 | 49 | 10.2 | 106 | 179 | 6.8 | 19 / 0.948 | 7.0 / 0.572 | 5.2 / 0.226 | 1.1 / 0.028 | 0 / 0.000 | 69 / 1.131 | | 6.5 / 0.183 | | | 0.02 | | | | 13 | 76 | 19 | 35 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 minimum .5 maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Bear River near Wheatland | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 0930 | 7,240 | 49 | 12.8 | 111 | 57.5 | 6.8 | 6.0 / 0.299 | 2.2 / 0.181 | 1.6 / 0.070 | 0.7 / 0.018 | 0 / 0.000 | 27 / 0.443 | | 1.0 / 0.028 | | | 0.00 | | | | 12 | 24 | 2 | 500 | | USGS |
| Feb 6 1130 | 1,000 | 43 | 12.3 | 99 | 82.0 | 6.8 | 9.1 / 0.454 | 2.7 / 0.226 | 2.7 / 0.117 | 0.6 / 0.015 | 0 / 0.000 | 36 / 0.590 | | 0.9 / 0.025 | | | 0.03 | | | | 14 | 34 | 4 | 110 | | USGS |
| Mar 12 1020 | 626 | 47 | 12.5 | 106 | 86.7 | 6.8 | 8.4 / 0.419 | 3.8 / 0.311 | 2.9 / 0.126 | 0.6 / 0.015 | 0 / 0.000 | 39 / 0.639 | | 3.2 / 0.090 | | | 0.69 | | | | 14 | 36 | 4 | 20 | | USGS |
| Apr 9 1050 | 254 | 50 | 10.0 | 100 | 90.3 | 7.3 | 8.4 / 0.419 | 4.1 / 0.341 | 2.9 / 0.126 | 0.6 / 0.015 | 0 / 0.000 | 46 / 0.754 | | 2.0 / 0.056 | | | 0.03 | | | | 14 | 38 | 0 | 10 | | USGS |
| May 7 1015 | 640 | 60 | 10.0 | 100 | 83.8 | 6.8 | 8.0 / 0.444 | 3.3 / 0.268 | 2.9 / 0.126 | 0.8 / 0.020 | 0 / 0.000 | 42 / 0.688 | 6.0 / 0.125 | 1.8 / 0.051 | 0.2 / 0.003 | 0.1 / 0.005 | 0.00 | 11 | Fe 0.14; Al 0.17; Cu 0.01; Zn 0.01; $PO_4$ 0.01; (a) | 56[b] | 15 | 36 | 2 | 40 | | USGS |
| June 11 1115 | 26 | 77 | 8.6 | 102 | 165 | 7.7 | 18 / 0.898 | 8.0 / 0.662 | 3.6 / 0.157 | 0.7 / 0.018 | 0 / 0.000 | 80 / 1.311 | | 3.8 / 0.107 | | | 0.08 | | | | 9 | 78 | 12 | 1 | | USGS |
| July 16 1015 | 4.4 | 82 | 9.7 | 122 | 293 | 7.7 | 32 / 1.597 | 16 / 1.303 | 6.5 / 0.283 | 1.0 / 0.026 | 0 / 0.000 | 142 / 2.327 | | 6.6 / 0.186 | | | 0.05 | | | | 9 | 145 | 29 | 0.8 | | USGS |
| Aug 13 0930 | 11 | 75 | 9.0 | 105 | 283 | 7.7 | 30 / 1.497 | 15 / 1.235 | 6.8 / 0.296 | 1.1 / 0.028 | 0 / 0.000 | 142 / 2.327 | | 8.1 / 0.248 | | | 0.00 | | | | 10 | 137 | 21 | 0.4 | | USGS |
| Sept 17 0950 | 7.2 | 70 | 9.8 | 105 | 303 | 7.2 | 34 / 1.697 | 15 / 1.223 | 7.5 / 0.326 | 1.0 / 0.026 | 0 / 0.000 | 152 / 2.491 | 29 / 0.604 | 8.5 / 0.240 | 0.1 / 0.002 | 0.1 / 0.005 | 0.00 | 22 | Al 0.03; Cu 0.01; Zn 0.01; $PO_4$ 0.00 | 192[b] | 10 | 146 | 21 | 0.8 | | USGS |
| Oct 15 1030 | 98 | 62 | 10.0 | 102 | 239 | 7.9 | 25 / 1.248 | 10 / 0.832 | 8.2 / 0.357 | 1.6 / 0.041 | 0 / 0.000 | 111 / 1.819 | | 10 / 0.282 | | | 0.00 | | | | 14 | 104 | 13 | 1.0 | | USGS |
| Nov 21 1000 | 105 | 45 | 12.3 | 102 | 119 | 6.9 | 13 / 0.65 | 4.4 / 0.36 | 3.6 / 0.16 | 0.8 / 0.02 | 0 / 0.00 | 57 / 0.93 | | 4.0 / 0.11 | | | 0.00 | | | | 13 | 50 | 3 | 1.8 | | USGS |
| Dec 10 1030 | 98 | 50 | 13.1 | 116 | 134 | 7.3 | 15 / 0.75 | 5.0 / 0.41 | 4.0 / 0.17 | 1.0 / 0.03 | 0 / 0.00 | 63 / 1.03 | | 4.5 / 0.13 | | | 0.00 | | | | 12 | 58 | 6 | 0.7 | median 3.7 minimum .23 maximum 230 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Big Chico Creek near Chico | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1200 | 67 | 41 | 11.9 | 90 | 166 | 7.6 | 13 / 0.649 | 6.1 / 0.501 | 10 / 0.435 | 0.7 / 0.018 | 0 / 0.000 | 81 / 1.327 | | 8.8 / 0.248 | | | 0.13 | | | | 27 | 58 | 0 | 0.8 | | USGS |
| Feb 7 1230 | 85 | 44 | 10.2 | 83 | 132 | 7.6 | 12 / 0.599 | 5.1 / 0.421 | 7.9 / 0.344 | 1.0 / 0.026 | 0 / 0.000 | 71 / 1.164 | | 5.0 / 0.141 | | | 0.06 | | | | 25 | 51 | 0 | 0.3 | | USGS |
| Mar 7 1245 | 100 | 45 | 11.6 | 96 | 130 | 7.6 | 11 / 0.549 | 6.2 / 0.511 | 7.6 / 0.330 | 0.8 / 0.020 | 0 / 0.000 | 71 / 1.164 | | 5.0 / 0.141 | | | 0.00 | | | | 23 | 53 | 0 | 3 | | USGS |
| Apr 4 1130 | 66 | 46 | 11.0 | 92 | 142 | 8.0 | 9.4 / 0.469 | 7.9 / 0.647 | 8.8 / 0.383 | 0.9 / 0.023 | 0 / 0.000 | 82 / 1.344 | | 5.8 / 0.164 | | | 0.09 | | | | 25 | 56 | 0 | 2 | | USGS |
| May 12 1115 | 102 | 61 | 10.0 | 100 | 130 | 7.9 | 11 / 0.549 | 6.0 / 0.491 | 6.9 / 0.300 | 0.9 / 0.023 | 0 / 0.000 | 71 / 1.164 | 3.6 / 0.075 | 6.0 / 0.169 | 0.1 / 0.002 | 0.0 / 0.000 | 0.02 | 34 | Zn 0.01; (a) PO4 0.00 | 104[b] | 22 | 52 | 0 | 2 | | USGS |
| Jun 16 0950 | 38 | 65 | 8.7 | 92 | 185 | 7.6 | 15 / 0.749 | 7.3 / 0.597 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 98 / 1.606 | | 8.3 / 0.234 | | | 0.10 | | | | 27 | 67 | 0 | 0.3 | | USGS |
| Jul 14 0920 | 28 | 72 | 9.1 | 103 | 201 | 7.6 | 16 / 0.798 | 8.0 / 0.662 | 14 / 0.609 | 1.3 / 0.033 | 0 / 0.000 | 108 / 1.770 | | 10 / 0.282 | | | 0.24 | | | | 29 | 73 | 0 | 0.4 | | USGS |
| Aug 18 0950 | 25 | 67 | 9.3 | 100 | 206 | 7.8 | 16 / 0.798 | 9.8 / 0.802 | 15 / 0.652 | 1.4 / 0.036 | 0 / 0.000 | 115 / 1.885 | | 12 / 0.338 | | | 0.24 | | | | 28 | 80 | 0 | 6 | | USGS |
| Sep 15 0940 | 37 | 62 | 9.6 | 98 | 210 | 7.3 | 17 / 0.848 | 8.2 / 0.672 | 14 / 0.609 | 1.6 / 0.041 | 0 / 0.000 | 110 / 1.803 | 4.6 / 0.096 | 10 / 0.282 | 0.2 / 0.003 | 0.2 / 0.011 | 0.00 | 42 | Al 0.06; Mn 0.01; Cu 0.01; (a) | 152[b] | 28 | 76 | 0 | 0.6 | | USGS |
| Oct 13 1010 | 29 | 58 | 10.0 | 98 | 209 | 7.4 | 16 / 0.798 | 8.8 / 0.722 | 14 / 0.609 | 1.3 / 0.033 | 0 / 0.000 | 107 / 1.754 | | 11 / 0.310 | | | 0.16 | | | | 28 | 76 | 0 | 0.4 | | USGS |
| Nov 17 1010 | 36 | 42 | 11.3 | 90 | 223 | 7.0 | 16 / 0.798 | 8.3 / 0.686 | 17 / 0.740 | 1.3 / 0.033 | 0 / 0.000 | 103 / 1.688 | | 14 / 0.395 | | | 0.21 | | | | 33 | 74 | 0 | 2 | | USGS |
| Dec 15 1015 | 48 | 47 | 11.6 | 99 | 164 | 6.8 | 13 / 0.649 | 6.9 / 0.571 | 11 / 0.478 | 0.9 / 0.023 | 0 / 0.000 | 84 / 1.377 | | 9.0 / 0.254 | | | 0.10 | | | | 28 | 61 | 0 | 1 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Big Chico Creek near Chico** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1200 | 1,280 | 46 | 12.0 | 100 | 71.1 | 7.2 | 6.3 / 0.314 | 3.0 / 0.250 | 2.8 / 0.122 | 0.5 / 0.013 | 0 / 0.000 | 40 / 0.656 | | 0.4 / 0.011 | | | 0.01 | | | | 17 | 28 | 0 | 15 | | USGS |
| Feb 7 0930 | 188 | 42 | 13.1 | 104 | 104 | 6.8 | 8.8 / 0.439 | 4.8 / 0.393 | 5.1 / 0.222 | 0.5 / 0.013 | 0 / 0.000 | 59 / 0.967 | | 2.8 / 0.079 | | | 0.06 | | | | 21 | 42 | 0 | 2 | | USGS |
| Mar 13 0920 | 216 | 42 | 12.5 | 99 | 90.9 | 7.2 | 4.0 / 0.200 | 6.7 / 0.550 | 4.3 / 0.187 | 0.5 / 0.013 | 0 / 0.000 | 50 / 0.820 | | 3.5 / 0.099 | | | 0.01 | | | | 20 | 38 | 0 | 3 | | USGS |
| Apr 10 0940 | 123 | 52 | 11.1 | 101 | 118 | 6.8 | 11 / 0.549 | 5.0 / 0.411 | 6.7 / 0.291 | 1.0 / 0.026 | 0 / 0.000 | 70 / 1.147 | | 3.5 / 0.099 | | | 0.15 | | | | 23 | 48 | 0 | 0.5 | | USGS |
| May 8 0840 | 172 | 50 | 10.8 | 95 | 107 | 7.3 | 9.5 / 0.474 | 4.9 / 0.406 | 5.4 / 0.235 | 0.8 / 0.020 | 0 / 0.000 | 62 / 1.016 | 3.4 / 0.071 | 3.3 / 0.093 | 0.0 / 0.000 | 0.0 / 0.000 | 0.06 | 30 | Al 0.03; Cu 0.01; Zn 0.01; (a) $PO_4$ 0.00 | 88[b] | 21 | 44 | 0 | 1 | | USGS |
| June 12 0840 | 51 | 64 | 9.2 | 96 | 160 | 7.7 | 14 / 0.699 | 7.6 / 0.621 | 9.8 / 0.426 | 1.1 / 0.028 | 0 / 0.000 | 92 / 1.508 | | 6.2 / 0.175 | | | 0.09 | | | | 24 | 66 | 0 | 1 | | USGS |
| July 17 0740 | 36 | 71 | 8.7 | 98 | 183 | 7.5 | 14 / 0.699 | 8.5 / 0.701 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 102 / 1.672 | | 8.3 / 0.234 | | | 0.17 | | | | 27 | 70 | 0 | 0.8 | | USGS |
| Aug 14 0730 | 30 | 67 | 9.0 | 97 | 193 | 7.7 | 15 / 0.748 | 8.7 / 0.712 | 13 / 0.565 | 1.4 / 0.036 | 0 / 0.000 | 106 / 1.737 | | 9.5 / 0.268 | | | 0.06 | | | | 27 | 73 | 0 | 0.3 | | USGS |
| Sept 18 0745 | 29 | 65 | 9.7 | 102 | 199 | 7.1 | 16 / 0.798 | 8.9 / 0.730 | 14 / 0.609 | 1.0 / 0.026 | 0 / 0.000 | 108 / 1.770 | 4.8 / 0.100 | 9.0 / 0.276 | 0.0 / 0.000 | 0.2 / 0.011 | 0.11 | 39 | Al 0.04; $PO_4$ 0.00; (a) | 147[b] | 28 | 76 | 0 | 0.4 | | USGS |
| Oct 16 0845 | 29 | 54 | 10.8 | 100 | 201 | 7.7 | 16 / 0.798 | 8.0 / 0.662 | 14 / 0.609 | 1.1 / 0.028 | 0 / 0.000 | 111 / 1.819 | | 10 / 0.282 | | | 0.09 | | | | 29 | 73 | 0 | 0.3 | | USGS |
| Nov 20 0850 | 30 | 42 | 13.0 | 103 | 202 | 7.0 | 16 / 0.80 | 8.5 / 0.70 | 14 / 0.61 | 1.3 / 0.03 | 0 / 0.00 | 109 / 1.79 | | 11 / 0.31 | | | 0.13 | | | | 29 | 75 | 0 | 0.3 | | USGS |
| Dec 11 0840 | 34 | 39 | 13.0 | 99 | 204 | 7.7 | 16 / 0.80 | 8.8 / 0.72 | 14 / 0.61 | 1.1 / 0.03 | 0 / 0.00 | 110 / 1.80 | | 11 / 0.31 | | | 0.05 | | | | 28 | 76 | 0 | 0.2 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Burney Creek near Burney** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar 2 1530 | 60 est. | 40 | 10.6 | 82 | 94.4 | 6.8 | 11 / 0.549 | 4.0 / 0.331 | 4.1 / 0.178 | 1.3 / 0.033 | 0 / 0.000 | 59 / 0.967 | | 0.5 / 0.014 | | | 0.00 | | | | 16 | 44 | 0 | 8 | | USGS |
| Apr 1 0815 | 75 est. | 42 | 10.4 | 83 | 65.4 | 7.2 | 3.5 / 0.175 | 4.5 / 0.369 | 3.2 / 0.139 | 0.7 / 0.018 | 0 / 0.000 | 42 / 0.688 | | 0.0 / 0.000 | | | 0.03 | | | | 20 | 27 | 0 | 10 | | USGS |
| May 11 1000 | 200 est. | 50 | 10.5 | 93 | 49.5 | 7.2 | 5.1 / 0.254 | 1.8 / 0.146 | 2.4 / 0.104 | 0.8 / 0.020 | 0 / 0.000 | 32 / 0.524 | 0.5 / 0.010 | 0.8 / 0.023 | 0.1 / 0.002 | 0.2 / 0.011 | 0.02 | 18 | Fe 0.05; Al 0.1; (a) $PO_4$ 0.05 | 46[b] | 20 | 20 | 0 | 3 | | USGS |
| Jun 15 1000 | 40 est. | 57 | 8.6 | 83 | 91.1 | 7.3 | 10 / 0.499 | 3.4 / 0.281 | 3.7 / 0.161 | 1.2 / 0.031 | 0 / 0.000 | 58 / 0.951 | | 0.4 / 0.011 | | | 0.00 | | | | 17 | 39 | 0 | 0.7 | | USGS |
| Jul 13 1040 | 20 est. | 58 | 9.2 | 90 | 102 | 7.4 | 10 / 0.499 | 4.4 / 0.361 | 4.2 / 0.183 | 1.3 / 0.033 | 0 / 0.000 | 66 / 1.082 | | 0.5 / 0.014 | | | 0.04 | | | | 17 | 43 | 0 | 2 | | USGS |
| Aug 17 1015 | 25 est. | 53 | 9.4 | 86 | 108 | 7.4 | 11 / 0.549 | 5.5 / 0.451 | 4.6 / 0.200 | 0.9 / 0.023 | 0 / 0.000 | 71 / 1.164 | | 0.8 / 0.023 | | | 0.00 | | | | 16 | 50 | 0 | 1 | | USGS |
| Sep 14 1[illegible] | 5[illegible] est. | 55 | 9.0 | 85 | 10[illegible] | 7.2 | 11 / 0.549 | 4.6 / 0.381 | 4.3 / 0.187 | 1.0 / 0.026 | 0 / 0.000 | 70 / 1.147 | 0.0 / 0.000 | 0.0 / 0.000 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 29 | Fe 0.12; Al 0.01; (a) | 84[b] | 16 | 46 | 0 | 0.9 | | USGS |
| Oct 12 1120 | 25 est. | 45 | 10.0 | 83 | 111 | 7.2 | 10 / 0.499 | 5.6 / 0.457 | 4.5 / 0.196 | 1.2 / 0.031 | 0 / 0.000 | 71 / 1.164 | | 0.0 / 0.000 | | | 0.03 | | | | 17 | 48 | 0 | 3 | | USGS |
| Nov 16 1030 | 35 est. | 36 | 11.[illegible] | 86 | 107 | 7.0 | 10 / 0.499 | 5.2 / 0.425 | 4.2 / 0.183 | 1.1 / 0.028 | 0 / 0.000 | 70 / 1.147 | | 0.0 / 0.000 | | | 0.00 | | | | 16 | 46 | 0 | 6 | | USGS |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) ppm / equivalents per million | Magnesium (Mg) ppm / equivalents per million | Sodium (Na) ppm / equivalents per million | Potassium (K) ppm / equivalents per million | Carbonate ($CO_3$) ppm / equivalents per million | Bicarbonate ($HCO_3$) ppm / equivalents per million | Sulfate ($SO_4$) ppm / equivalents per million | Chloride (Cl) ppm / equivalents per million | Nitrate ($NO_3$) ppm / equivalents per million | Fluoride (F) ppm / equivalents per million | Boron (B) ppm / equivalents per million | Silica ($SiO_2$) ppm | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Burney Creek near Burney | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 0930 | Est 100 | 45 | 11.4 | 94 | 41.7 | 6.8 | 4.8 / 0.240 | 1.9 / 0.160 | 2.0 / 0.087 | 0.4 / 0.010 | 0 / 0.000 | 28 / 0.459 | 1.0 / 0.021 | 1.0 / 0.028 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 17 | Fe 0.02; Cu 0.01; Zn 0.02; $PO_4$ 0.00; (a) | 42[b] | 18 | 20 | 0 | 6 | | USGS |
| June 13 0915 | Est 100 | 53 | 9.2 | 84 | 64.8 | 7.1 | 6.7 / 0.334 | 2.8 / 0.230 | 2.6 / 0.113 | 0.9 / 0.023 | 0 / 0.000 | 44 / 0.721 | | 0.4 / 0.011 | | | 0.06 | | | | 16 | 28 | 0 | 1 | | USGS |
| July 18 0940 | Est 60 | 61 | 9.1 | 92 | 92.1 | 7.3 | 8.8 / 0.439 | 4.4 / 0.361 | 4.0 / 0.174 | 1.0 / 0.026 | 0 / 0.000 | 60 / 0.983 | | 0.3 / 0.008 | | | 0.00 | | | | 18 | 40 | 0 | 0.4 | | USGS |
| Aug 15 0950 | Est 30 | 59 | 9.3 | 92 | 102 | 7.3 | 9.9 / 0.494 | 5.2 / 0.426 | 4.2 / 0.183 | 1.1 / 0.028 | 0 / 0.000 | 68 / 1.115 | | 0.0 / 0.000 | | | 0.00 | | | | 16 | 46 | 0 | 1 | | USGS |
| Sept 19 0915 | Est 40 | 54 | 9.4 | 87 | 106 | 6.8 | 11 / 0.549 | 5.0 / 0.411 | 4.5 / 0.196 | 1.2 / 0.031 | 0 / 0.000 | 71 / 1.164 | 1.0 / 0.021 | 0.5 / 0.014 | 0.0 / 0.000 | 0.0 / 0.000 | 0.01 | 33 | Fe 0.10; Cu 0.03; (a) | 91[b] | 16 | 48 | 0 | 1 | | USGS |
| Oct 17 0930 | Est 50 | 47 | 9.7 | 82 | 107 | 7.0 | 10 / 0.499 | 4.9 / 0.401 | 4.5 / 0.196 | 1.5 / 0.038 | 0 / 0.000 | 67 / 1.098 | | 0.2 / 0.006 | | | 0.00 | | | | 17 | 45 | 0 | 30 | | USGS |
| Nov | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | median 13 minimum 1.3 maximum 130 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Butte Creek near Chico** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1330 | 270 | 39 | 13.0 | 99 | 102 | 7.4 | 11 / 0.549 | 4.5 / 0.371 | 3.3 / 0.143 | 0.6 / 0.015 | 0 / 0.000 | 61 / 1.000 | | 1.5 / 0.042 | | | 0.10 | | | | 13 | 46 | 0 | 3 | | USGS |
| Feb 7 1515 | 242 | 44 | 12.3 | 100 | 105 | 7.8 | 12 / 0.599 | 4.0 / 0.331 | 3.8 / 0.165 | 0.7 / 0.018 | 0 / 0.000 | 63 / 1.032 | | 0.8 / 0.023 | | | 0.00 | | | | 15 | 46 | 0 | 3 | | USGS |
| Mar 7 1400 | 237 | 46 | 11.5 | 96 | 103 | 7.3 | 11 / 0.549 | 4.5 / 0.371 | 3.8 / 0.165 | 0.8 / 0.020 | 0 / 0.000 | 61 / 1.000 | | 1.0 / 0.028 | | | 0.00 | | | | 15 | 46 | 0 | 1 | | USGS |
| Apr 4 1415 | 571 | 46 | 11.4 | 95 | 80.2 | 7.4 | 5.2 / 0.259 | 5.2 / 0.429 | 3.4 / 0.148 | 0.8 / 0.020 | 0 / 0.000 | 52 / 0.852 | | 0.8 / 0.023 | | | 0.01 | | | | 17 | 34 | 0 | 2 | | USGS |
| May 12 1150 | 577 | 58 | 10.4 | 101 | 67.6 | 7.4 | 6.8 / 0.339 | 3.4 / 0.281 | 2.5 / 0.109 | 0.7 / 0.018 | 0 / 0.000 | 41 / 0.672 | 1.3 / 0.027 | 0.5 / 0.014 | 0.3 / 0.005 | 0.0 / 0.000 | 0.06 | 20 | Zn 0.01; (a) $PO_4$ 0.00 | 56[b] | 15 | 31 | 0 | 2 | | USGS |
| Jun 16 1040 | 227 | 63 | 9.9 | 102 | 93.6 | 7.5 | 9.8 / 0.489 | 3.4 / 0.281 | 3.2 / 0.143 | 0.7 / 0.020 | 0 / 0.000 | 56 / 0.918 | | 0.4 / 0.011 | | | 0.00 | | | | 15 | 38 | 0 | 0.3 | | USGS |
| Jul 14 1000 | 160 | 65 | 7.6 | 80 | 101 | 7.4 | 16 / 0.798 | 1.2 / 0.102 | 3.7 / 0.161 | 0.9 / 0.023 | 0 / 0.000 | 65 / 1.065 | | 0.5 / 0.014 | | | 0.08 | | | | 15 | 45 | 0 | 1 | | USGS |
| Aug 18 1025 | 133 | 62 | 9.5 | 97 | 108 | 7.4 | 11 / 0.549 | 5.0 / 0.411 | 4.1 / 0.178 | 1.0 / 0.026 | 0 / 0.000 | 68 / 1.114 | | 0.8 / 0.022 | | | 0.04 | | | | 15 | 48 | 0 | 6 | | USGS |
| Sep 15 1040 | 160 | 59 | 10.1 | 99 | 108 | 7.4 | 12 / 0.599 | 4.2 / 0.349 | [illegible] / 0.143 | [illegible] / 0.023 | 0 / 0.000 | 66 / 1.082 | 1.0 / 0.025 | 0.0 / 0.000 | 0.1 / 0.002 | 0.1 / 0.005 | 0.00 | 23 | Al 0.02; Cu 0.01; (a) | 78[b] | 13 | 47 | 0 | 0.9 | | USGS |
| Oct 13 1100 | 74 | 54 | 10.9 | 101 | 118 | 7.0 | 11 / 0.549 | 5.8 / 0.479 | 4.2 / 0.183 | 1.1 / [illegible] | 0 / 0.000 | 70 / 1.147 | | 0.0 / 0.000 | | | 0.07 | | | | 15 | 51 | 0 | 2 | | USGS |
| Nov 17 1100 | 115 | 41 | 10.1 | 95 | 127 | 7.0 | 13 / 0.649 | 5.4 / 0.443 | 4.0 / [illegible] | [illegible] / [illegible] | 0 / 0.000 | 74 / 1.213 | | 0.3 / 0.008 | | | 0.09 | | | | 16 | 55 | 0 | 5 | | USGS |
| Dec 15 1100 | 203 | 44 | 1[illegible].0 | 98 | 1[illegible] | 6.8 | 11 / 0.549 | 4.8 / 0.391 | 3.7 / 0.161 | 0.8 / [illegible] | 0 / 0.000 | 64 / 1.049 | | 0.5 / 0.014 | | | 0.00 | | | | 14 | 47 | 0 | 1 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

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## ANALYSES OF SURFACE WATER

REGION 5

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Butte Creek near Chico | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1530 | 3,400 | 48 | 11.1 | 96 | 57.3 | 6.8 | 5.0 / 0.250 | 2.8 / 0.234 | 1.8 / 0.078 | 0.5 / 0.013 | 0 / 0.000 | 33 / 0.541 | | 0.0 / 0.000 | | | 0.01 | | | | 14 | 24 | 0 | 35 | | USGS |
| Feb 7 0950 | 652 | 41 | 12.5 | 98 | 73.7 | 7.1 | 9.6 / 0.479 | 1.5 / 0.125 | 4.0 / 0.174 | 0.5 / 0.013 | 0 / 0.000 | 44 / 0.721 | | 0.0 / 0.000 | | | 0.04 | | | | 22 | 30 | 0 | 4 | | USGS |
| Mar 13 1010 | 610 | 52 | 12.6 | 100 | 73.3 | 7.0 | 10 / 0.499 | 1.6 / 0.131 | 2.5 / 0.109 | 0.3 / 0.008 | 0 / 0.000 | 42 / 0.688 | | 2.0 / 0.056 | | | 0.04 | | | | 15 | 32 | 0 | 5 | | USGS |
| Apr 10 1020 | 640 | 50 | 10.8 | 95 | 64.8 | 6.8 | 4.8 / 0.240 | 3.6 / 0.300 | 2.7 / 0.117 | 0.7 / 0.018 | 0 / 0.000 | 43 / 0.705 | | 0.0 / 0.000 | | | 0.04 | | | | 17 | 27 | 0 | 6 | | USGS |
| May 8 0940 | 762 | 48 | 11.4 | 98 | 57.7 | 6.8 | 5.8 / 0.289 | 3.1 / 0.251 | 2.0 / 0.087 | 0.5 / 0.013 | 0 / 0.000 | 36 / 0.590 | 2.0 / 0.042 | 0.5 / 0.014 | 0.0 / 0.000 | 0.0 / 0.000 | 0.00 | 17 | Al 0.01; Cu 0.01; Zn 0.01; (a) $PO_4$ 0.00 | 49[b] | 14 | 27 | 0 | 7 | | USGS |
| June 12 0800 | 370 | 57 | 10.0 | 96 | 72.2 | 7.3 | 8.8 / 0.439 | 2.9 / 0.241 | 2.5 / 0.109 | 0.6 / 0.015 | 0 / 0.000 | 47 / 0.770 | | 0.5 / 0.014 | | | 0.00 | | | | 14 | 34 | 0 | 3 | | USGS |
| July 17 0825 | 191 | 65 | 9.5 | 100 | 95.5 | 7.5 | 9.8 / 0.489 | 4.3 / 0.355 | 3.6 / 0.157 | 1.0 / 0.026 | 0 / 0.000 | 62 / 1.016 | | 0.3 / 0.008 | | | 0.02 | | | | 15 | 42 | 0 | 0.8 | | USGS |
| Aug 14 0810 | 155 | 60 | 10.0 | 100 | 103 | 7.7 | 11 / 0.549 | 4.5 / 0.371 | 3.6 / 0.157 | 1.1 / 0.028 | 0 / 0.000 | 66 / 1.082 | | 0.3 / 0.008 | | | 0.00 | | | | 14 | 46 | 0 | 0.3 | | USGS |
| Sept 18 0830 | 124 | 52 | 10.0 | 98 | 103 | 6.8 | 12 / 0.599 | 4.5 / 0.373 | 3.6 / 0.157 | 0.7 / 0.018 | 0 / 0.000 | 70 / 1.147 | 0.0 / 0.000 | 0.0 / 0.000 | 0.1 / 0.002 | 0.2 / 0.011 | 0.00 | 22 | Al 0.05; $PO_4$ 0.05; (a) | 77[b] | 14 | 49 | 0 | 0.5 | | USGS |
| Oct 16 0935 | 165 | 50 | 11.4 | 101 | 106 | 7.5 | 11 / 0.549 | 4.9 / 0.399 | 3.6 / 0.157 | 0.8 / 0.020 | 0 / 0.000 | 69 / 1.131 | | 0.2 / 0.006 | | | 0.00 | | | | 14 | 47 | 0 | 0.4 | | USGS |
| Nov 20 0940 | 135 | 40 | 13.3 | 103 | 115 | 6.8 | 12 / 0.60 | 4.9 / 0.40 | 3.6 / 0.16 | 0.9 / 0.02 | 0 / 0.00 | 75 / 1.23 | | 1.2 / 0.03 | | | 0.00 | | | | 14 | 50 | 0 | 1.4 | | USGS |
| Dec 10 1600 | 127 | 38 | 13.4 | 100 | 113 | 7.2 | 12 / 0.60 | 4.9 / 0.40 | 3.8 / 0.17 | 1.0 / 0.03 | 0 / 0.00 | 72 / 1.18 | | 0.5 / 0.01 | | | 0.00 | | | | 14 | 50 | 0 | 0.4 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Cache Creek near Capay | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 14 0930 | 91 | 41 | 12.5 | 98 | 825 | 8.3 | 41 / 2.05 | 34 / 2.77 | 71 / 3.09 | 2.9 / 0.07 | 10 / 0.33 | 264 / 4.33 | | 100 / 2.82 | | | 3.3 | | | | 39 | 241 | 8 | 0.6 | | [illegible] |
| Feb 25 1020 | 83 | 52 | 10.1 | 91 | 725 | 8.1 | 39 / 1.95 | 36 / 2.93 | 61 / 2.65 | 2.7 / 0.07 | 10 / 0.33 | 260 / 4.26 | | 80 / 2.26 | | | 2.0 | | | | 35 | 244 | 14 | 0.9 | | [illegible] |
| Mar 22 1205 | 93 | 59 | | | 729 | | 11 / 0.55 | 50 / 4.11 | 61 / 2.65 | 0.8 / 0.02 | 0 / 0.00 | 276 / 4.52 | | 78 / 2.20 | | | 1.6 | | | | 36 | 233 | 7 | 3 | | [illegible] |
| Apr 6 1630 | 62 | 63 | 10.4 | 107 | 734 | 8.4 | 37 / 1.85 | 38 / 3.12 | 69 / 3.00 | 3.5 / 0.09 | 8 / 0.27 | 280 / 4.59 | | 88 / 2.48 | | | 2.4 | | | | 37 | 248 | 5 | 2 | | [illegible] |
| May 16 1530 | 258 | 76 | 9.2 | 108 | 548 | 8.2 | 37 / 1.85 | 27 / 2.25 | 39 / 1.70 | 2.7 / 0.07 | 0 / 0.00 | 266 / 4.36 | 22 / 0.46 | 40 / 1.13 | 0.6 / 0.01 | 0.1 / 0.01 | 1.5 | 11 | Al 0.07; Zn 0.02; $FO_4$ 0.05 | 312[b] | 29 | 205 | 0 | 2 | | [illegible] |
| Jun | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 19 1630 | 476 | 80 | 9.2 | 114 | 496 | 7.9 | 33 / 1.68 | 27 / 2.23 | 35 / 1.52 | 2.7 / 0.07 | 4 / 0.13 | 253 / 4.15 | | 32 / 0.90 | | | 1.5 | | | | 28 | 194 | 0 | 1 | | [illegible] |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 19 19[illegible] | 110 | 69 | 9.1 | 100 | 488 | 7.6 | 33 / 1.65 | 23 / 1.91 | 30 / 1.30 | 2.9 / 0.07 | 0 / 0.00 | 224 / 3.67 | 17 / 0.35 | [illegible] / 1.00 | 2.4 / 0.04 | 0.3 / 0.02 | 1.6 | 7.7 | Al 0.08; (a) | 264[b] | 26 | 173 | 0 | 20 | | [illegible] |
| Oct 17 1100 | 10 | 68 | 9.0 | 100 | 680 | 7.8 | 44 / 2.20 | 32 / 2.63 | 57 / 2.48 | 2.5 / 0.06 | 0 / 0.00 | 262 / 4.29 | | 73 / 2.06 | | | 2.1 | | | | 34 | 242 | 12 | 2 | | [illegible] |
| Nov 24 1[illegible] | 5 | 50 | 10.0 | [illegible] | 769 | 7.4 | 50 / 2.50 | 32 / 2.63 | 72 / 2.13 | 2.3 / 0.06 | 5 / 0.17 | 288 / 4.72 | | 84 / 2.05 | | | 1.8 | | | | 37 | 258 | 14 | 0 | | [illegible] |
| Dec 13 1[illegible] | 81 | 50 | 11.1 | 99 | 834 | 6.8 | 42 / 2.10 | 27 / 2.22 | 82 / 3.57 | 3.3 / 0.08 | 7 / 0.23 | 242 / 4.26 | | 128 / 3.61 | | | 4.0 | | | | 41 | 256 | 41 | 3 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 5.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .023 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 50 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Cache Creek near Capay | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1545 | 5,350 | 51 | 11.0 | 98 | 331 | 7.8 | 24 / 1.198 | 19 / 1.594 | 16 / 0.696 | 1.6 / 0.041 | 0 / 0.000 | 169 / 2.770 | | 12 / 0.338 | | | 0.85 | | | | 20 | 140 | 1 | 300 | | USGS |
| Feb 8 1430 | 3,490 | 50 | 12.0 | 106 | 366 | 7.6 | 28 / 1.397 | 21 / 1.743 | 17 / 0.740 | 1.9 / 0.049 | 4 / 0.133 | 183 / 2.999 | | 13 / 0.367 | | | 1.1 | | | | 19 | 157 | 0 | 100 | | USGS |
| Mar 15 1240 | 3,280 | 52 | 11.3 | 102 | 331 | 7.3 | 24 / 1.198 | 20 / 1.662 | 15 / 0.652 | 1.8 / 0.046 | 0 / 0.000 | 169 / 2.770 | | 12 / 0.338 | | | 0.85 | | | | 18 | 143 | 4 | 30 | | USGS |
| Apr 12 1330 | 306 | 56 | 10.2 | 97 | 785 | 7.4 | 45 / 2.25 | 45 / 3.71 | 58 / 2.52 | 2.7 / 0.07 | 0 / 0.00 | 329 / 5.39 | | 64 / 1.80 | | | 1.8 | | | | 29 | 298 | 28 | 10 | | USGS |
| May 14 1200 | 480 | 66 | 9.0 | 96 | 447 | 7.8 | 29 / 1.447 | 27 / 2.193 | 29 / 1.262 | 2.2 / 0.056 | 0 / 0.000 | 211 / 3.458 | 27 / 0.562 | 28 / 0.790 | 1.2 / 0.019 | 0.0 / 0.000 | 1.3 | 11 | Al 0.09; Cu 0.01; Zn 0.01; (a) $PO_4$ 0.00 | 260[b] | 25 | 182 | 9 | 0.9 | | USGS |
| June 18 1200 | 426 | 74 | 9.5 | 110 | 368 | 7.4 | 27 / 1.347 | 20 / 1.653 | 22 / 0.957 | 2.2 / 0.056 | 0 / 0.000 | 184 / 3.016 | | 20 / 0.564 | | | 1.2 | | | | 24 | 150 | 0 | 1 | | USGS |
| July 23 1230 | 410 | 84 | 8.3 | 107 | 319 | 7.9 | 25 / 1.248 | 18 / 1.464 | 17 / 0.740 | 2.3 / 0.059 | 0 / 0.00 | 167 / 2.737 | | 15 / 0.423 | | | 1.0 | | | | 21 | 136 | 0 | 1 | | USGS |
| Aug 20 1250 | 322 | 76 | 9.2 | 109 | 324 | 7.4 | 25 / 1.248 | 18 / 1.452 | 17 / 0.740 | 2.2 / 0.056 | 0 / 0.000 | 173 / 2.835 | | 14 / 0.395 | | | 0.93 | | | | 21 | 135 | 0 | 7 | | USGS |
| Sept 11 1320 | 201 | 72 | 9.5 | 108 | 358 | 7.9 | 28 / 1.397 | 18 / 1.483 | 21 / 0.914 | 0.2 / 0.005 | 0 / 0.000 | 186 / 3.049 | 14 / 0.291 | 20 / 0.564 | 0.4 / 0.006 | 0.1 / 0.005 | 0.93 | 12 | Fe 0.01; Al 0.04; Cu 0.01; $PO_4$ 0.10 | 207[b] | 24 | 144 | 0 | 9 | | USGS |
| Oct 25 1410 | 11 | 59 | 10.5 | 103 | 693 | 7.9 | 40 / 2.00 | 33 / 2.75 | 57 / 2.48 | 2.3 / 0.06 | 0 / 0.00 | 274 / 4.49 | | 81 / 2.28 | | | 1.7 | | | | 34 | 237 | 12 | 0.4 | | USGS |
| Nov 13 1200 | 18 | 56 | 11.2 | 106 | 816 | 7.6 | 48 / 2.40 | 41 / 3.36 | 66 / 2.87 | 2.6 / 0.07 | 0 / 0.00 | 343 / 5.62 | | 110 / 3.10 | | | 1.6 | | | | 33 | 288 | 7 | 0.8 | | USGS |
| Dec 12 1110 | 24 | 49 | 10.8 | 94 | 959 | 8.1 | 50 / 2.50 | 54 / 4.46 | 84 / 3.65 | 3.0 / 0.08 | 0 / 0.00 | 306 / 5.02 | | 149 / 4.20 | | | 2.8 | | | | 34 | 348 | 97 | 0.4 | median 2.3 minimum .23 maximum 62 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Minera analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Cache Creek near Lower Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1000 | 0.4 | 39 | 10.5 | 80 | 247 | 7.3 | 21 / 1.048 | 12 / 0.992 | 11 / 0.478 | 1.9 / 0.049 | 0 / 0.000 | 123 / 2.016 | | 5.2 / 0.147 | | | 0.37 | | | | 19 | 102 | 1 | 20 | | USGS |
| Feb 10 0930 | 0.4 | 41 | 10.0 | 78 | 268 | 7.8 | 24 / 1.198 | 13 / 1.062 | 13 / 0.565 | 1.7 / 0.043 | 0 / 0.000 | 130 / 2.131 | | 5.5 / 0.155 | | | 0.37 | | | | 20 | 113 | 6 | 7 | | USGS |
| March | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 6 1030 | 32 | 54 | 10.4 | 98 | 313 | 7.8 | 25 / 1.248 | 17 / 1.416 | 15 / 0.652 | 2.0 / 0.051 | 0 / 0.000 | 142 / 2.327 | | 6.8 / 0.192 | | | 0.32 | | | | 19 | 133 | 17 | 3 | | USGS |
| May 17 1100 | 226 | 62 | 8.0 | 82 | 322 | 7.8 | 34 / 1.697 | 14 / 1.183 | 13 / 0.565 | 2.3 / 0.059 | 0 / 0.000 | 183 / 2.999 | 12 / 0.250 | 7.5 / 0.212 | 0.8 / 0.013 | 0.0 / 0.000 | 0.94 | 2.5 | Al 0.01; (a) $PO_4$ 0.00 | 177[b] | 16 | 144 | 0 | 5 | | USGS |
| Jun 21 1030 | 411 | 74 | 9.0 | 104 | 311 | 7.8 | 29 / 1.447 | 16 / 1.313 | 13 / 0.565 | 2.2 / 0.056 | 0 / 0.000 | 179 / 2.934 | | 7.2 / 0.203 | | | 1.0 | | | | 17 | 138 | 0 | 1 | | USGS |
| Jul 19 1115 | 449 | 73 | 8.2 | 94 | 311 | 7.8 | 27 / 1.347 | 18 / 1.453 | 13 / 0.565 | 2.5 / 0.064 | 0 / 0.000 | 184 / 3.016 | | 7.0 / 0.197 | | | 0.90 | | | | 16 | 140 | 0 | 4 | | USGS |
| Aug 23 1020 | 345 | 75 | 8.1 | 95 | 324 | 8.0 | 26 / 1.297 | 21 / 1.703 | 13 / 0.565 | 2.2 / 0.056 | 0 / 0.000 | 192 / 3.147 | | 8.0 / 0.226 | | | 1.2 | | | | 16 | 150 | 0 | 9 | | USGS |
| Sep 20 0830 | 79 | 66 | 8.0 | 95 | 349 | 7.5 | 27 / 1.347 | 20 / 1.613 | 13 / 0.565 | 2.9 / 0.074 | 0 / 0.000 | 200 / 3.278 | 11 / 0.229 | 7.5 / 0.212 | 0.1 / 0.002 | 0.5 / 0.026 | 1.2 | 2.7 | Fe 0.01; Al 0.12; Pb 0.01; Zn 0.01; (a) | 185[b] | 16 | 148 | 0 | 2 | | USGS |
| Oct 17 1640 | 1.1 | 64 | 6.4 | 67 | 361 | 7.2 | 31 / 1.547 | 20 / 1.673 | 15 / 0.652 | 2.8 / 0.072 | 0 / 0.000 | 198 / 3.245 | | 7.2 / 0.203 | | | 1.2 | | | | 17 | 161 | 0 | 2 | | USGS |
| Nov 21 1130 | .5 | 49 | 7.5 | 65 | 355 | 7.3 | 30 / 1.497 | 20 / 1.683 | 15 / 0.652 | 2.9 / 0.074 | 0 / 0.000 | 200 / 3.278 | | 8.5 / 0.240 | | | 1.3 | | | | 17 | 159 | 0 | 2 | | USGS |
| Dec 12 1345 | .4 | 51 | 9.8 | 87 | 351 | 6.8 | 30 / 1.497 | 20 / 1.663 | 15 / 0.652 | 2.6 / 0.067 | 0 / 0.000 | 199 / 3.262 | | 8.0 / 0.226 | | | 1.1 | | | | 17 | 158 | 0 | 2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 42 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Cache Creek near Lower Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1220 | 2,940 | 47 | 10.5 | 89 | 310 | 7.2 | 26/1.297 | 17/1.419 | 12/0.522 | 2.5/0.064 | 0/0.000 | 170/2.786 | | 6.7/0.189 | | | 1.1 | | | | 16 | 136 | 0 | 20 | | USGS |
| Feb 9 1130 | 2,610 | 45 | 11.4 | 94 | 302 | 7.2 | 26/1.297 | 16/1.303 | 13/0.566 | 2.2/0.056 | 0/0.000 | 167/2.737 | | 5.5/0.155 | | | 1.1 | | | | 18 | 130 | 0 | 20 | | USGS |
| Mar 14 1215 | 2,640 | 48 | 11.0 | 95 | 261 | 7.2 | 21/1.048 | 16/1.292 | 10/0.435 | 2.0/0.051 | 0/0.000 | 142/2.327 | | 7.2/0.203 | | | 0.82 | | | | 15 | 117 | 1 | 15 | | USGS |
| Apr 11 1230 | 3.2. | 58 | 9.2 | 90 | 298 | 7.0 | 18/0.898 | 19/1.522 | 16/0.696 | 3.4/0.087 | 0/0.000 | 160/2.622 | | 12/0.338 | | | 0.83 | | | | 22 | 121* | 0 | 15 | | USGS |
| May 15 0915 | 220 | 63 | 9.3 | 96 | 250 | 7.3 | 22/1.098 | 14/1.130 | 10/0.435 | 2.1/0.054 | 0/0.000 | 140/2.295 | 11/0.229 | 5.4/0.152 | 2.0/0.032 | 0.1/0.005 | 0.86 | 9.7 | Fe 0.01; Al 0.03; Cu 0.01; Zn 0.06; $PO_4$ 0.12; (a) | 146[b] | 16 | 111 | 0 | 7 | | USGS |
| June 19 0910 | 372 | 70 | 8.6 | 96 | 249 | 7.5 | 27/1.347 | 11/0.873 | 9.9/0.431 | 2.1/0.054 | 0/0.000 | 142/2.327 | | 5.0/0.141 | | | 0.80 | | | | 16 | 111 | 0 | 20 | | USGS |
| July 24 0815 | 446 | 82 | 7.8 | 97 | 250 | 7.7 | 22/1.098 | 14/1.182 | 10/0.435 | 1.9/0.049 | 0/0.000 | 144/2.360 | | 5.5/0.155 | | | 0.63 | | | | 16 | 114 | 0 | 6 | | USGS |
| Aug 21 0900 | 337 | 76 | 8.5 | 100 | 255 | 7.2 | 23/1.148 | 14/1.132 | 10/0.435 | 2.2/0.056 | 0/0.000 | 145/2.377 | | 5.3/0.149 | | | 0.87 | | | | 16 | 114 | 0 | 3 | | USGS |
| Sept 12 0830 | 220 | 69 | 8.6 | 95 | 261 | 7.7 | 24/1.198 | 14/1.134 | 10/0.435 | 2.0/0.051 | 0/0.000 | 150/2.458 | 7.7/0.160 | 5.3/0.149 | 0.9/0.015 | 0.3/0.016 | 0.77 | 10 | Al 0.07; Cu 0.02; (a) | 149[b] | 15 | 117 | 0 | 15 | | USGS |
| Oct 26 1015 | 2.04 | 57 | 8.5 | 82 | 277 | 7.5 | 25/1.25 | 15/1.22 | 11/0.48 | 2.2/0.06 | 0/0.00 | 160/2.62 | | 6.0/0.17 | | | 0.88 | | | | 16 | 123 | 0 | 2 | | USGS |
| Nov 14 1020 | 2.2 | 55 | 8.8 | 83 | 277 | 7.2 | 24/1.20 | 15/1.27 | 11/0.48 | 2.2/0.06 | 0/0.00 | 162/2.56 | | 6.8/0.19 | | | 0.69 | | | | 16 | 124 | 0 | 3.9 | | USGS |
| Dec 13 0950 | 3.2 | 44 | 10.5 | 85 | 283 | 7.7 | 24/1.20 | 17/1.36 | 11/0.48 | 2.2/0.06 | 0/0.00 | 166/2.72 | | 6.0/0.17 | | | 0.78 | | | | 15 | 128 | 0 | 1 | median 5.6 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| * Not revised | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Cache Creek-North Fork near Lower Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1500 | 64 | 46 | 13.4 | 112 | 426 | 8.3 | 28 / 1.397 | 24 / 2.003 | 25 / 1.087 | 1.2 / 0.031 | 14 / 0.467 | 176 / 2.884 | | 35 / 0.987 | | | 1.9 | | | | 24 | 170 | 3 | 0.4 | | USGS |
| Feb 9 1300 | 94 | | 12.3 | | 359 | 8.4 | 25 / 1.248 | 21 / 1.732 | 20 / 0.870 | 0.9 / 0.023 | 7 / 0.233 | 168 / 2.753 | | 24 / 0.677 | | | 1.5 | | | | 22 | 149 | 0 | 1 | | USGS |
| Mar 9 0745 | 97 | 50 | 9.8 | 86 | 379 | 8.0 | 25 / 1.248 | 22 / 1.772 | 23 / 1.000 | 1.2 / 0.031 | 0 / 0.000 | 185 / 3.032 | | 24 / 0.677 | | | 1.7 | | | | 25 | 151 | 0 | 0.7 | | USGS |
| Apr 5 0730 | 50 | 48 | 10.4 | 89 | 401 | 8.2 | 24 / 1.198 | 25 / 2.086 | 26 / 1.131 | 1.3 / 0.033 | 0 / 0.000 | 212 / 3.474 | | 28 / 0.790 | | | 2.1 | | | | 25 | 164 | 0 | 1 | | USGS |
| May 17 1200 | 76 | 70 | 9.0 | 100 | 352 | 8.2 | 25 / 1.248 | 20 / 1.612 | 20 / 0.870 | 1.3 / 0.033 | 5 / 0.167 | 174 / 2.852 | 11 / 0.229 | 14 / 0.395 | 0.5 / 0.008 | 0.0 / 0.000 | 1.4 | 21 | Al 0.01; (a) $PO_4$ 0.05 | 205[b] | 23 | 143 | 0 | 0.8 | | USGS |
| Jun 21 1200 | 14 | 78 | 9.5 | 114 | 458 | 7.9 | 33 / 1.647 | 23 / 1.889 | 30 / 1.305 | 1.5 / 0.038 | 15 / 0.500 | 193 / 3.163 | | 38 / 1.072 | | | 2.7 | | | | 27 | 176 | 0 | 0.3 | | USGS |
| Jul 19 1210 | 4.9. | 83 | 9.3 | 118 | 518 | 7.8 | 33 / 1.65 | 27 / 2.19 | 36 / 1.57 | 2.1 / 0.05 | 10 / 0.33 | 211 / 3.46 | | 52 / 1.47 | | | 3.7 | | | | 29 | 192 | 0 | 0.6 | | USGS |
| Aug 23 1120 | 0.9 | 80 | 8.8 | 108 | 601 | 7.8 | 36 / 1.80 | 32 / 2.64 | 40 / 1.74 | 2.0 / 0.05 | 0 / 0.00 | 254 / 4.16 | | 68 / 1.92 | | | 4.9 | | | | 28 | 222 | 14 | 0.6 | | USGS |
| Sep 20 1045 | 1.2 | 69 | 10.6 | 107 | 672 | 7.7 | 21 / 1.05 | 46 / 3.81 | 44 / 1.91 | 2.0 / 0.05 | 0 / 0.00 | 257 / 4.21 | 13 / 0.27 | 87 / 2.45 | 0.3 / 0.00 | 0.1 / 0.01 | 4.5 | 21 | Fe 0.01; Al 0.11; Cu 0.01; (a) | 366[b] | 28 | 243 | 32 | 0.5 | | USGS |
| Oct 18 0945 | 0.8 | 60 | 8.9 | 99 | 667 | 7.4 | 40 / 2.00 | 29 / 2.42 | 50 / 2.18 | 1.9 / 0.05 | 0 / 0.00 | 251 / 4.11 | | 84 / 2.37 | | | 5.6 | | | | 33 | 221 | 15 | 2 | | USGS |
| Nov 21 1315 | 3.6 | 56 | 13.5 | 128 | 603 | 7.5 | 35 / 1.75 | 27 / 2.19 | 53 / 2.31 | 2.2 / 0.06 | 9 / 0.30 | 193 / 3.16 | | 83 / 2.34 | | | 6.1 | | | | 37 | 197 | 24 | 2 | | USGS |
| Dec 12 1[illegible] | 67 | 51 | 10.9 | 97 | 632 | 6.8 | 37 / 1.85 | 34 / 2.77 | 44 / 1.91 | 1.7 / 0.04 | 6 / 0.20 | 222 / 3.64 | | 80 / 2.26 | | | 4.7 | | | | 29 | 231 | 39 | 1 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp. in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) ppm / equivalents per million | Magnesium (Mg) ppm / equivalents per million | Sodium (Na) ppm / equivalents per million | Potassium (K) ppm / equivalents per million | Carbonate ($CO_3$) ppm / equivalents per million | Bicarbonate ($HCO_3$) ppm / equivalents per million | Sulfate ($SO_4$) ppm / equivalents per million | Chloride (Cl) ppm / equivalents per million | Nitrate ($NO_3$) ppm / equivalents per million | Fluoride (F) ppm / equivalents per million | Boron (B) ppm | Silica ($SiO_2$) ppm | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cache Creek-North Fork near Lower Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1300 | 1,290 | 51 | 11.0 | 98 | 224 | 7.0 | 18 / 0.898 | 14 / 1.118 | 8.1 / 0.352 | 0.8 / 0.020 | 0 / 0.000 | 125 / 2.049 | | 5.2 / 0.147 | | | 0.40 | | | | 15 | 101 | 0 | 180 | | USGS |
| Feb 9 1245 | 397 | 51 | 11.9 | 106 | 325 | 7.2 | 23 / 1.148 | 22 / 1.784 | 13 / 0.566 | 0.8 / 0.020 | 2 / 0.067 | 176 / 2.885 | | 8.2 / 0.231 | | | 0.68 | | | | 16 | 147 | 0 | 30 | | USGS |
| Mar 14 1115 | 322 | 50 | 11.0 | 97 | 309 | 7.8 | 23 / 1.148 | 21 / 1.692 | 12 / 0.522 | 0.8 / 0.020 | 3 / 0.100 | 168 / 2.754 | | 11 / 0.310 | | | 0.58 | | | | 15 | 142 | 0 | 15 | | USGS |
| Apr 11 1100 | 160 | 52 | 10.9 | 99 | 403 | 7.8 | 28 / 1.397 | 26 / 2.163 | 21 / 0.914 | 1.2 / 0.031 | 0 / 0.000 | 223 / 3.655 | | 16 / 0.451 | | | 1.4 | | | | 20 | 178 | 0 | 0.5 | | USGS |
| May 15 1000 | 63 | 63 | 9.9 | 102 | 413 | 7.6 | 29 / 1.447 | 28 / 2.273 | 22 / 0.957 | 1.3 / 0.033 | 6 / 0.200 | 223 / 3.458 | 19 / 0.396 | 22 / 0.620 | 0.4 / 0.006 | 0.1 / 0.005 | 1.5 | 17 | Al 0.11; Cu 0.01; Zn 0.01; (a) $PO_4$ 0.00 | 250[b] | 20 | 186 | 3 | 1 | | USGS |
| June 19 1015 | 24 | 71 | 10.0 | 112 | 474 | 7.7 | 34 / 1.697 | 28 / 2.343 | 27 / 1.174 | 1.6 / 0.041 | 0 / 0.000 | 238 / 3.901 | | 34 / 0.959 | | | 2.2 | | | | 22 | 202 | 7 | 2 | | USGS |
| July 24 0930 | 76* | 78 | 8.8 | 106 | 521 | 7.9 | 36 / 1.80 | 30 / 2.45 | 31 / 1.35 | 2.1 / 0.05 | 0 / 0.00 | 241 / 3.95 | | 46 / 1.30 | | | 2.7 | | | | 24 | 212 | 14 | 0.4 | | USGS |
| Aug 21 1030 | 62* | 78 | 10.0 | 120 | 524 | 7.8 | 31 / 1.55 | 31 / 2.51 | 34 / 1.48 | 2.1 / 0.05 | 0 / 0.00 | 226 / 3.70 | | 53 / 1.49 | | | 3.3 | | | | 26 | 203 | 18 | 0.4 | | USGS |
| Sept 12 0930 | 0 | 68 | 8.4 | 92 | 617 | 7.3 | 45 / 2.25 | 36 / 2.99 | 40 / 1.74 | 1.8 / 0.05 | 0 / 0.00 | 284 / 4.65 | 21 / 0.44 | 62 / 1.75 | 0.1 / 0.00 | 0.1 / 0.01 | 3.0 | 24 | Al 0.06; Cu 0.01; $PO_4$ 0.05; (a) | 373[b] | 25 | 262 | 29 | 0.9 | | USGS |
| Oct 26 1335 | 0 | 66 | 7.1 | 76 | 655 | 7.3 | 37 / 1.85 | 38 / 3.15 | 44 / 1.91 | 1.9 / 0.05 | 0 / 0.00 | 287 / 4.70 | | 71 / 2.00 | | | 3.0 | | | | 27 | 250 | 15 | 0.4 | | USGS |
| Nov 14 1120 | 12 | 52 | 12.9 | 126 | 884 | 7.8 | 50 / 2.50 | 49 / 4.06 | 56 / 2.44 | 2.5 / 0.06 | 0 / 0.00 | 287 / 4.70 | | 141 / 3.98 | | | 7.1 | | | | 27 | 328 | 93 | 0.9 | | USGS |
| Dec 13 1045 | 13 | 52 | 13.0 | 118 | 880 | 8.3 | 50 / 2.50 | 52 / 4.38 | 54 / 2.35 | 2.1 / 0.05 | 0 / 0.00 | 284 / 4.65 | | 145 / 4.09 | | | 7.4 | | | | 25 | 344 | 111 | 0.4 | median 2.3 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .19 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

* Not revised

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Calaveras River near Jenny Lind | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1700 | 2,770 | 42 | 11.8 | 93 | 138 | 7.2 | 14 / 0.699 | 5.6 / 0.461 | 5.1 / 0.222 | 1.1 / 0.028 | 0 / 0.000 | 62 / 1.016 | | 3.0 / 0.085 | | | 0.10 | | | | 16 | 58 | 7 | 60 | | USGS |
| Feb 15 1300 | 94 | 52 | 11.2 | 101 | 230 | 7.8 | 25 / 1.248 | 9.6 / 0.792 | 7.6 / 0.330 | 1.2 / 0.031 | 0 / 0.000 | 110 / 1.803 | | 6.0 / 0.169 | | | 0.03 | | | | 14 | 102 | 12 | 2 | | USGS |
| Mar 15 1130 | 6.2 | 57 | 10.0 | 98 | 311 | 7.5 | 22 / 1.098 | 20 / 1.622 | 11 / 0.478 | 1.4 / 0.036 | 0 / 0.000 | 148 / 2.426 | | 10 / 0.282 | | | 0.04 | | | | 15 | 136 | 15 | 10 | | USGS |
| Apr 19 1320 | 104 | 53 | 11.8 | 109 | 198 | 6.8 | 15 / 0.749 | 12 / 0.991 | 6.4 / 0.278 | 1.2 / 0.031 | 0 / 0.000 | 98 / 1.606 | | 4.8 / 0.135 | | | 0.05 | | | | 14 | 87 | 7 | 3 | | USGS |
| May 20 0940 | 111 | 62 | 9.7 | 100 | 185 | 8.1 | 23 / 1.148 | 5.5 / 0.452 | 7.6 / 0.330 | 2.9 / 0.074 | 0 / 0.000 | 102 / 1.672 | 9.6 / 0.200 | 3.5 / 0.099 | 0.4 / 0.006 | 0.1 / 0.005 | 0.00 | 17 | Fe 0.01; Al 0.01; (a) $PO_4$ 0.00 | 120[b] | 16 | 80 | 0 | 6 | | USGS |
| Jun 24 0910 | 160 | 62 | 9.6 | 98 | 197 | 7.7 | 23 / 1.148 | 7.2 / 0.592 | 6.2 / 0.270 | 1.4 / 0.036 | 0 / 0.000 | 109 / 1.786 | | 4.2 / 0.118 | | | 0.04 | | | | 13 | 87 | 0 | 3 | | USGS |
| Jul 18 1115 | 171 | 72 | 9.0 | 102 | 222 | 7.4 | 23 / 1.148 | 8.9 / 0.732 | 8.3 / 0.361 | 2.5 / 0.064 | 0 / 0.000 | 108 / 1.770 | | 5.0 / 0.141 | | | 0.20 | | | | 16 | 94 | 5 | 7 | | USGS |
| Aug 22 1300 | 0 | 81 | 6.5 | 81 | 254 | 7.4 | 27 / 1.347 | 12 / 0.973 | 7.4 / 0.322 | 1.9 / 0.049 | 0 / 0.000 | 141 / 2.311 | | 5.8 / 0.164 | | | 0.12 | | | | 12 | 116 | 0 | 2 | | USGS |
| Sep | No Flow | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible] | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 19 1400 | 80 | 51 | 9.9 | 99 | 243 | 7.3 | 27 / 1.347 | 8.9 / 0.733 | 8.3 / 0.361 | 1.7 / 0.043 | 0 / 0.000 | 106 / 1.737 | | 9.0 / 0.254 | | | 0.17 | | | | 15 | 104 | 17 | 9 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) ppm / equiv. | Magnesium (Mg) ppm / equiv. | Sodium (Na) ppm / equiv. | Potassium (K) ppm / equiv. | Carbonate ($CO_3$) ppm / equiv. | Bicarbonate ($HCO_3$) ppm / equiv. | Sulfate ($SO_4$) ppm / equiv. | Chloride (Cl) ppm / equiv. | Nitrate ($NO_3$) ppm / equiv. | Fluoride (F) ppm / equiv. | Boron (B) ppm / equiv. | Silica ($SiO_2$) ppm / equiv. | Other constituents ppm / equiv. | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Calaveras River near Jenny Lind | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1245 | 4,030 | 51 | 10.8 | 97 | 101 | 7.3 | 12 / 0.599 | 2.9 / 0.241 | 2.4 / 0.104 | 1.3 / 0.033 | 0 / 0.000 | 52 / 0.852 | | 0.5 / 0.014 | | | 0.08 | | | | 11 | 42 | 0 | 80 | | USGS |
| Feb 14 1250 | 281 | 47 | 11.7 | 99 | 189 | 7.5 | 20 / 0.998 | 8.0 / 0.658 | 5.6 / 0.244 | 1.3 / 0.033 | 1 / 0.033 | 96 / 1.573 | | 3.1 / 0.087 | | | 0.01 | | | | 13 | 83 | 3 | 10 | | USGS |
| Mar 19 1230 | 12 | 58 | 10.8 | 105 | 247 | 7.5 | 23 / 1.148 | 13 / 1.092 | 7.8 / 0.339 | 1.3 / 0.033 | 0 / 0.000 | 126 / 2.065 | | 7.5 / 0.212 | | | 0.18 | | | | 13 | 112 | 9 | 1 | | USGS |
| Apr 16 1215 | 7.0 | 60 | 10.2 | 102 | 290 | 7.3 | 28 / 1.397 | 15 / 1.255 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 150 / 2.458 | | 9.3 / 0.262 | | | 0.08 | | | | 14 | 133 | 10 | 1 | | USGS |
| May 14 1130 | 59 | 66 | 10.3 | 110 | 200 | 7.7 | 22 / 1.098 | 9.4 / 0.776 | 6.9 / 0.300 | 1.4 / 0.036 | 0 / 0.000 | 111 / 1.819 | 13 / 0.271 | 4.6 / 0.130 | 0.3 / 0.005 | 0.3 / 0.016 | 0.04 | 17 | Fe 0.01; Al 0.02; Cu 0.01; $PO_4$ 0.00; (a) | 130[b] | 14 | 94 | 3 | 1 | | USGS |
| June 19 1220 | 176 | 63 | 10.0 | 103 | 179 | 7.7 | 20 / 0.998 | 5.6 / 0.462 | 6.5 / 0.283 | 1.4 / 0.036 | 0 / 0.000 | 100 / 1.639 | | 3.2 / 0.090 | | | 0.08 | | | | 16 | 73 | 0 | 2 | | USGS |
| July 26 0950 | 182 | 72 | 8.8 | 100 | 199 | 7.3 | 22 / 1.098 | 8.8 / 0.722 | 6.5 / 0.283 | 1.6 / 0.041 | 0 / 0.000 | 113 / 1.852 | | 4.1 / 0.116 | | | 0.09 | | | | 13 | 91 | 0 | 1 | | USGS |
| Aug 20 1100 | 158* | 73 | 9.4 | 108 | 210 | 7.9 | 25 / 1.248 | 8.0 / 0.656 | 6.2 / 0.270 | 1.8 / 0.046 | 0 / 0.000 | 116 / 1.901 | | 4.0 / 0.113 | | | 0.00 | | | | 12 | 95 | 0 | 2 | | USGS |
| Sept 11 1300 | 107* | 73 | 9.5 | 109 | 227 | 7.0 | 26 / 1.297 | 9.3 / 0.763 | 7.0 / 0.304 | 1.7 / 0.043 | 0 / 0.000 | 126 / 2.065 | 11 / 0.229 | 3.6 / 0.102 | 1.1 / 0.018 | 0.3 / 0.016 | 0.00 | 18 | Cu 0.01; (a) | 140[b] | 13 | 103 | 0 | 2 | | USGS |
| Oct 18 0945 | 7 | 61 | 8.5 | 86 | 314 | 7.6 | 36 / 1.796 | 14 / 1.172 | 9.6 / 0.418 | 2.1 / 0.054 | 0 / 0.000 | 181 / 2.967 | | 9.0 / 0.254 | | | 0.00 | | | | 12 | 148 | 0 | 0.4 | | USGS |
| Nov 19 1140 | 21 | 49 | 10.9 | 95 | 305 | 7.9 | 30 / 1.497 | 11 / 0.895 | 11 / 0.478 | 1.6 / 0.041 | 0 / 0.000 | 141 / 2.311 | | 10 / 0.282 | | | 0.00 | | | | 16 | 120 | 0 | 1.0 | | USGS |
| Dec 17 1135 | 25 | 46 | 12.2 | 102 | 241 | 7.7 | 28 / 1.40 | 10 / 0.84 | 7.5 / 0.33 | 1.6 / 0.04 | 0 / 0.00 | 127 / 2.08 | | 2.5 / 0.07 | | | 0.08 | | | | 13 | 112 | 8 | 7 | median 2.3 minimum .045 – maximum 7000 | USGS |

* Not revised

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Clear Lake near Clearlake Oaks** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1530 | | 45 | 10.6 | 87 | 290 | 8.0 | 26 / 1.297 | 16 / 1.343 | 11 / 0.478 | 2.0 / 0.051 | 0 / 0.000 | 166 / 2.721 | | 7.2 / 0.203 | | | 0.88 | | | | 15 | 132 | 0 | 9 | | USGS |
| Feb 9 1420 | | 48 | 10.3 | 88 | 294 | 7.6 | 26 / 1.297 | 17 / 1.423 | 12 / 0.522 | 2.0 / 0.051 | 0 / 0.000 | 165 / 2.721 | | 8.8 / 0.248 | | | 0.79 | | | | 16 | 136 | 0 | 2 | | USGS |
| Mar 9 0945 | | 48 | 10.3 | 89 | 291 | 7.9 | 26 / 1.297 | 16 / 1.323 | 12 / 0.522 | 2.2 / 0.056 | 0 / 0.000 | 164 / 2.688 | | 7.0 / 0.197 | | | 0.64 | | | | 16 | 131 | 0 | 1 | | USGS |
| Apr 6 0930 | | 52 | 10.0 | 91 | 286 | 8.0 | 21 / 1.048 | 18 / 1.512 | 12 / 0.522 | 2.2 / 0.056 | 0 / 0.000 | 168 / 2.753 | | 6.4 / 0.181 | | | 0.82 | | | | 17 | 128 | 0 | 2 | | USGS |
| May 17 1300 | | 63 | 10.2 | 105 | 294 | 8.1 | 25 / 1.248 | 17 / 1.372 | 11 / 0.478 | 2.2 / 0.056 | 0 / 0.000 | 168 / 2.753 | 12 / 0.250 | 6.0 / 0.169 | 0.4 / 0.006 | 0.0 / 0.000 | 0.87 | 0.9 | Fe 0.005; Mn 0.01; (a) $PO_4$ 0.00 | 158[b] | 15 | 131 | 0 | 3 | | USGS |
| Jun 21 1300 | | 73 | 10.8 | 124 | 299 | 7.8 | 29 / 1.447 | 15 / 1.233 | 12 / 0.522 | 2.1 / 0.054 | 5 / 0.167 | 164 / 2.688 | | 6.5 / 0.183 | | | 0.87 | | | | 16 | 134 | 0 | 0.4 | | USGS |
| Jul 19 1310 | | 79 | 10.5 | 126 | 308 | 7.8 | 22 / 0.998 | 20 / 1.662 | 12 / 0.522 | 2.3 / 0.059 | 0 / 0.000 | 180 / 2.950 | | 7.0 / 0.197 | | | 1.1 | | | | 16 | 138 | 0 | 2 | | USGS |
| Aug 23 1240 | | 79 | 11.6 | 142 | 311 | 8.2 | 28 / 1.397 | 18 / 1.443 | 13 / 0.565 | 2.2 / 0.056 | 11 / 0.367 | 164 / 2.688 | | 7.0 / 0.197 | | | 1.2 | | | | 16 | 142 | 0 | 2 | | USGS |
| Sep 20 1150 | | 72 | 12.2 | 138 | 321 | 8.0 | 20 / 0.998 | 22 / 1.822 | 13 / 0.565 | 2.5 / 0.064 | 0 / 0.000 | 175 / 2.868 | 15 / 0.312 | 7.5 / 0.212 | 3.7 / 0.060 | 0.2 / 0.011 | 1.4 | 4.8 | Fe 0.02; Cu 0.01; (a) Al 0.08 | 176[b] | 16 | 141 | 0 | 5 | | USGS |
| Oct 18 0930 | | 64 | 10.5 | 110 | 340 | 7.8 | 29 / 1.447 | 19 / 1.549 | 14 / 0.609 | 2.5 / 0.064 | 0 / 0.000 | 187 / 3.065 | | 7.1 / 0.200 | | | 1.3 | | | | 17 | 150 | 0 | 10 | | USGS |
| Nov 21 1400 | | 53 | 11.6 | 106 | 333 | 7.4 | 29 / 1.447 | 19 / 1.581 | 14 / 0.609 | 2.5 / 0.064 | 4 / 0.133 | 181 / 2.967 | | 7.5 / 0.212 | | | 1.3 | | | | 16 | 151 | 0 | 10 | | USGS |
| Dec 12 1445 | | 51 | 12.0 | 116 | 341 | 6.8 | 28 / 1.397 | 22 / 1.823 | 14 / 0.609 | 2.5 / 0.064 | 0 / 0.000 | 185 / 3.032 | | 8.5 / 0.240 | | | 1.3 | | | | 16 | 151 | 0 | 9 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .62 minimum .045- maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen % Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Clear Lake near Clearlake Oaks | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1430 | | 50 | 9.8 | 87 | 240 | 7.0 | 20 / 0.998 | 13 / 1.098 | 8.9 / 0.387 | 1.7 / 0.043 | 0 / 0.000 | 130 / 2.131 | | 5.2 / 0.147 | | | 0.75 | | | | 15 | 105 | 0 | 75 | | USGS |
| Feb 9 1410 | | 48 | 10.0 | 86 | 228 | 7.3 | 20 / 0.998 | 12 / 0.970 | 9.0 / 0.392 | 1.8 / 0.046 | 0 / 0.000 | 125 / 2.049 | | 3.9 / 0.110 | | | 0.59 | | | | 16 | 98 | 0 | 65 | | USGS |
| Mar 14 1345 | | 53 | 11.0 | 107 | 196 | 6.8 | 17 / 0.848 | 12 / 0.972 | 7.3 / 0.318 | 1.8 / 0.046 | 0 / 0.000 | 110 / 1.803 | | 5.2 / 0.147 | | | 0.44 | | | | 15 | 91 | 1 | 40 | | USGS |
| Apr 11 1400 | | 56 | 10.4 | 99 | 211 | 7.0 | 18 / 0.898 | 12 / 0.962 | 8.5 / 0.370 | 1.8 / 0.046 | 0 / 0.000 | 120 / 1.967 | | 4.5 / 0.127 | | | 0.64 | | | | 16 | 93 | 0 | 20 | | USGS |
| May 15 1045 | | 62 | 9.3 | 95 | 223 | 7.2 | 19 / 0.948 | 13 / 1.044 | 8.9 / 0.387 | 1.8 / 0.046 | 0 / 0.000 | 124 / 2.032 | 11 / 0.229 | 4.3 / 0.121 | 2.3 / 0.037 | 0.1 / 0.005 | 0.67 | 15 | Fe 0.04; Al 0.08; Cu 0.01; Zn 0.01; $PO_4$ 0.08; (a) | 137[b] | 16 | 100 | 0 | 3 | | USGS |
| June 19 1045 | | 68 | 8.6 | 94 | 229 | 7.5 | 24 / 1.198 | 10 / 0.842 | 8.9 / 0.387 | 1.9 / 0.046 | 0 / 0.000 | 129 / 2.114 | | 4.2 / 0.118 | | | 0.67 | | | | 16 | 102 | 0 | 10 | | USGS |
| July 24 1020 | | 80 | 8.6 | 106 | 236 | 7.9 | 22 / 1.098 | 13 / 1.062 | 9.4 / 0.409 | 1.9 / 0.049 | 0 / 0.000 | 134 / [illegible] | | 5.0 / 0.141 | | | 0.71 | | | | 16 | 108 | 0 | 4 | | USGS |
| Aug 21 1220 | | 80 | 9.0 | 111 | 241 | 7.2 | 21 / 1.048 | 14 / 1.144 | 9.6 / 0.418 | 2.0 / 0.051 | 0 / 0.000 | 139 / [illegible] | | 5.0 / 0.141 | | | 0.73 | | | | 16 | 110 | 0 | 5 | | USGS |
| Sept 12 1025 | | 70 | 8.2 | 91 | 249 | 7.7 | 23 / 1.143 | 13 / 1.100 | 9.6 / 0.418 | 2.0 / 0.051 | 0 / 0.000 | 142 / 2.327 | 7.7 / 0.16 | [illegible] / .155 | 0.6 / 0.010 | 0.3 / 0.016 | 0.67 | 11 | Al 0.07; Cu 0.01; (a) | 143[b] | 15 | 112 | 0 | 4 | | USGS |
| Oct 26 1115 | | 59 | 9.1 | 90 | 256 | 7.9 | 23 / 1.15 | 14 / 1.15 | 9.9 / 0.43 | 1.9 / 0.05 | 0 / 0.00 | 148 / 2.43 | | 5.6 / 0.16 | | | 0.72 | | | | 15 | 115 | 0 | 20 | | USGS |
| Nov 14 1200 | | 56 | 11.1 | 106 | 260 | 7.2 | 23 / 1.15 | 14 / 1.17 | 10 / 0.44 | 2.0 / 0.05 | 0 / 0.00 | 152 / 2.49 | | 6.2 / 0.17 | | | 0.79 | | | | 16 | 116 | 0 | 20 | | USGS |
| Dec 13 1135 | | 49 | 11.3 | 98 | 253 | 7.9 | 23 / 1.15 | 14 / 1.19 | 10 / 0.44 | 2.4 / 0.06 | 0 / 0.00 | 153 / 2.51 | | 5.0 / 0.14 | | | 0.72 | | | | 15 | 117 | 0 | 10 | median 2.3 minimum .13 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Clear Lake at Lakeport | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1620 | | 45 | 10.0 | 82 | 286 | 7.8 | 26 / 1.297 | 15 / 1.193 | 11 / 0.478 | 1.9 / 0.049 | 0 / 0.000 | 160 / 2.622 | | 6.5 / 0.183 | | | 0.65 | | | | 16 | 124 | 0 | 30 | | USGS |
| Feb 5 1520 | | 50 | | | 281 | 8.0 | 25 / 1.248 | 16 / 1.312 | 11 / 0.478 | 1.9 / 0.049 | 0 / 0.000 | 159 / 2.606 | | 6.5 / 0.183 | | | 0.74 | | | | 15 | 128 | 0 | 10 | | USGS |
| Mar 9 0930 | | 50 | 11.3 | 100 | 279 | 8.3 | 22 / 1.098 | 17 / 1.402 | 11 / 0.478 | 2.2 / 0.056 | 0 / 0.000 | 158 / 2.589 | | 6.5 / 0.183 | | | 0.36 | | | | 16 | 125 | 0 | 10 | | USGS |
| Apr 6 0915 | | 56 | 10.0 | 95 | 287 | 8.1 | 22 / 1.098 | 17 / 1.422 | 11 / 0.478 | 2.0 / 0.051 | 0 / 0.000 | 164 / 2.688 | | 6.0 / 0.169 | | | 0.03 | | | | 16 | 126 | 0 | 2 | | USGS |
| May 17 1700 | | 66 | 8.6 | 92 | 282 | 8.2 | 24 / 1.199 | 17 / 1.382 | 11 / 0.478 | 2.1 / 0.054 | 0 / 0.000 | 166 / 2.721 | 10 / 0.208 | 6.0 / 0.169 | 0.5 / 0.008 | 0.0 / 0.000 | 0.70 | 1.2 | Al 0.005; (a) $FO_4$ 0.05 | 155[b] | 15 | 129 | 0 | 2 | | USGS |
| Jun 21 1350 | | 76 | 9.8 | 115 | 302 | 7.9 | 30 / 1.497 | 14 / 1.171 | 12 / 0.522 | 2.2 / 0.056 | 0 / 0.000 | 174 / 2.852 | | 6.3 / 0.178 | | | 0.80 | | | | 16 | 133 | 0 | 0.4 | | USGS |
| Jul 19 1410 | | 80 | 9.0 | 111 | 308 | 7.6 | 24 / 1.198 | 19 / 1.542 | 12 / 0.522 | 2.6 / 0.067 | 0 / 0.000 | 179 / 2.934 | | 7.0 / 0.197 | | | 0.95 | | | | 16 | 137 | 0 | 4 | | USGS |
| Aug 23 1330 | | 83 | 8.3 | 106 | 323 | 8.1 | 27 / 1.347 | 19 / 1.593 | 13 / 0.565 | 2.3 / 0.059 | 0 / 0.000 | 190 / 3.114 | | 7.5 / 0.212 | | | 1.1 | | | | 16 | 147 | 0 | 20 | | USGS |
| Sep 20 1240 | | 76 | 15.4 | 182 | 337 | 8.2 | 28 / 1.397 | 19 / 1.543 | 12 / 0.522 | 2.5 / 0.064 | 0 / 0.000 | 195 / 3.196 | 11 / 0.229 | 7.2 / 0.203 | 0.1 / 0.002 | 0.4 / 0.021 | 1.1 | 7.2 | Fe 0.02; Al 0.05; (a) | 184[b] | 15 | 147 | 0 | 8 | | USGS |
| Oct 18 1245 | | 63 | 9.0 | 93 | 354 | 8.0 | 29 / 1.447 | 19 / 1.541 | 14 / 0.609 | 2.5 / 0.064 | 0 / 0.000 | 212 / 3.475 | | 6.1 / 1.720 | | | 1.1 | | | | 17 | 149 | 0 | 20 | | USGS |
| Nov 21 1450 | | 51 | 9.2 | 82 | 331 | 7.1 | 28 / 1.397 | 19 / 1.583 | 14 / 0.609 | 2.5 / 0.064 | 0 / 0.000 | 184 / 3.016 | | 8.0 / 0.226 | | | 1.2 | | | | 17 | 149 | 0 | 25 | | USGS |
| Dec 12 1600 | | 51 | 9.3 | 83 | 323 | 6.8 | 28 / 1.397 | 18 / 1.503 | 13 / 0.566 | 2.5 / 0.064 | 0 / 0.000 | 182 / 2.983 | | 8.5 / 0.240 | | | 1.1 | | | | 16 | 145 | 0 | 20 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 minimum .045- maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Clear Lake at Lakeport** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1515 | | 49 | 10.1 | 88 | 218 | 7.0 | 18 / 0.898 | 12 / 0.962 | 6.7 / 0.291 | 1.7 / 0.043 | 0 / 0.000 | 118 / 1.934 | | 5.0 / 0.141 | | | 0.62 | | | | 13 | 93 | 0 | 65 | | USGS |
| Feb 9 1520 | | 48 | 10.3 | 89 | 221 | 7.2 | 19 / 0.948 | 11 / 0.940 | 8.3 / 0.361 | 1.7 / 0.043 | 0 / 0.000 | 121 / 1.983 | | 4.0 / 0.113 | | | 0.54 | | | | 16 | 94 | 0 | 85 | | USGS |
| Mar 14 1500 | | 56 | 10.8 | 103 | 195 | 7.0 | 18 / 0.898 | 10 / 0.842 | 7.1 / 0.309 | 1.8 / 0.046 | 0 / 0.000 | 107 / 1.754 | | 5.0 / 0.141 | | | 0.45 | | | | 15 | 87 | 0 | 40 | | USGS |
| Apr 11 1500 | | 52 | 9.4 | 85 | 205 | 7.0 | 17 / 0.848 | 12 / 0.972 | 7.8 / 0.339 | 1.8 / 0.046 | 0 / 0.000 | 120 / 1.967 | | 3.5 / 0.099 | | | 0.58 | | | | 15 | 91 | 0 | 35 | | USGS |
| May 15 1130 | | 66 | 11.2 | 119 | 213 | 7.6 | 18 / 0.898 | 12 / 1.002 | 8.3 / 0.361 | 1.8 / 0.046 | 0 / 0.000 | 121 / 1.983 | 9.4 / 0.196 | 3.8 / 0.107 | 1.8 / 0.029 | 0.1 / 0.005 | 0.58 | 14 | Fe 0.04; Al 0.06; Cu 0.01; $PO_4$ 0.06; (a) | 130[b] | 16 | 95 | 0 | 5 | | USGS |
| June 19 1145 | | 72 | 9.3 | 106 | 225 | 7.7 | 23 / 1.148 | 10 / 0.856 | 8.7 / 0.378 | 1.8 / 0.046 | 0 / 0.000 | 128 / 2.098 | | 4.2 / 0.118 | | | 0.58 | | | | 16 | 100 | 0 | 10 | | USGS |
| July 24 1120 | | 78 | 7.2 | 87 | 237 | 7.5 | 22 / 1.098 | 13 / 1.042 | 9.6 / 0.418 | 1.8 / 0.046 | 0 / 0.000 | 136 / 2.229 | | 5.0 / 0.141 | | | 0.67 | | | | 16 | 107 | 0 | 10 | | USGS |
| Aug 21 1315 | | 80 | 9.3 | 115 | 246 | 7.2 | 21 / 1.048 | 14 / 1.120 | 9.6 / 0.418 | 2.0 / 0.051 | 0 / 0.000 | 138 / 2.262 | | 5.0 / 0.141 | | | 0.78 | | | | 16 | 110 | 0 | 5 | | USGS |
| Sept 12 1115 | | 72 | 7.6 | 86 | 247 | 7.7 | 22 / 1.098 | 14 / 1.122 | 9.6 / 0.418 | 2.0 / 0.051 | 0 / 0.000 | 141 / 2.311 | 7.7 / 0.160 | 5.0 / 0.141 | 0.6 / 0.010 | 0.3 / 0.016 | 0.71 | 14 | Al 0.07; Cu 0.04; (a) | 145[b] | 16 | 111 | 0 | 20 | | USGS |
| Oct 26 1210 | | 58 | 9.2 | 89 | 256 | 7.9 | 23 / 1.15 | 14 / 1.14 | 9.9 / 0.43 | 2.2 / 0.06 | 0 / 0.00 | 148 / 2.43 | | 5.4 / 0.15 | | | 0.72 | | | | 15 | 114 | 0 | 25 | | USGS |
| Nov 14 1300 | | 56 | 10.0 | 95 | 258 | 7.2 | 23 / 1.15 | 14 / 1.16 | 9.4 / 0.41 | 2.0 / 0.05 | 0 / 0.00 | 149 / 2.44 | | 6.2 / 0.17 | | | 0.62 | | | | 15 | 116 | 0 | 19 | | USGS |
| Dec 13 1230 | | 48 | 9.9 | 85 | 258 | 7.7 | 23 / 1.15 | 14 / 1.17 | 10 / 0.44 | 2.1 / 0.05 | 0 / 0.00 | 156 / 2.56 | | 6.0 / 0.17 | | | 0.73 | | | | 16 | 116 | 0 | 15 | median 1.8 minimum .045 - maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Colusa Trough near Colusa | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1330 | 464 | 43 | 10.8 | 87 | 1220 | 8.2 | 49 / 2.45 | 39 / 3.19 | 160 / 6.96 | 2.6 / 0.07 | 0 / 0.00 | 281 / 4.61 | | 107 / 3.02 | | | 0.21 | | | | 55 | 282 | 52 | 35 | | UGGS |
| Feb 9 1150 | 147 | 50 | 10.3 | 91 | 1670 | 8.4 | 70 / 3.49 | 59 / 4.87 | 224 / 9.74 | 1.2 / 0.03 | 12 / 0.40 | 328 / 5.38 | | 164 / 4.63 | | | 0.37 | | | | 54 | 418 | 129 | 20 | | UGGS |
| Mar 8 1730 | 92 | 57 | 11.3 | 108 | 1420 | 8.4 | 51 / 2.54 | 55 / 4.52 | 185 / 8.04 | 2.2 / 0.06 | 10 / 0.33 | 319 / 5.23 | | 126 / 3.55 | | | 0.15 | | | | 53 | 353 | 75 | 40 | | UGGS |
| Apr 5 1500 | 294 | 56 | 10.0 | 95 | 432 | 8.2 | 21 / 1.048 | 18 / 1.512 | 42 / 1.826 | 2.2 / 0.059 | 0 / 0.000 | 158 / 2.589 | | 24 / 0.677 | | | 0.16 | | | | 41 | 128 | 0 | 36 | | UGGS |
| May 13 0930 | 1,010 | 68 | 7.3 | 80 | 453 | 7.7 | 23 / 1.148 | 16 / 1.292 | 51 / 2.218 | 2.6 / 0.067 | 0 / 0.000 | 174 / 2.852 | 57 / 1.187 | 26 / 0.733 | 1.1 / 0.018 | 0.2 / 0.011 | 0.20 | 17 | Fe 0.1; Al 0.1; (a) $PO_4$ 0.60 | 280[b] | 47 | 122 | 0 | 160 | | UGGS |
| Jun 17 1040 | 613 | 75 | 7.5 | 88 | 493 | 7.6 | 26 / 1.30 | 16 / 1.33 | 56 / 2.44 | 1.5 / 0.38 | 0 / 0.00 | 194 / 3.18 | | 28 / 0.79 | | | 0.02 | | | | 45 | 131 | 0 | 29 | | UGGS |
| Jul 15 1000 | 707 | 76 | 7.0 | 83 | 469 | 7.4 | 23 / 1.15 | 20 / 1.61 | 51 / 2.22 | 1.7 / 0.04 | 0 / 0.00 | 209 / 3.43 | | 22 / 0.62 | | | 0.22 | | | | 44 | 138 | 0 | 45 | | UGGS |
| Aug 19 0950 | 827 | 71 | 7.5 | 84 | 453 | 7.4 | 26 / 1.297 | 19 / 1.543 | 48 / 2.087 | 1.6 / 0.041 | 0 / 0.000 | 205 / 3.360 | | 23 / 0.649 | | | 0.25 | | | | 42 | 142 | 0 | 145 | | UGGS |
| Sep 19 1050 | 591 | 66 | 8.1 | 87 | 525 | 7.4 | 27 / 1.35 | 21 / 1.71 | 51 / 2.22 | 2.2 / 0.06 | 0 / 0.00 | 207 / 3.39 | 57 / 1.19 | 29 / 0.82 | 1.2 / 0.02 | 0.5 / 0.03 | 0.20 | 18 | Fe 0.05; Al 0.12; Cu 0.02; (a) | 309[b] | 42 | 153 | 0 | 65 | | UGGS |
| Oct 14 0920 | 350 | 65 | 8.0 | 85 | 485 | 7.4 | 26 / 1.297 | 18 / 1.475 | 51 / 2.218 | 2.5 / 0.064 | 0 / 0.000 | 183 / 2.999 | | 26 / 0.733 | | | 0.11 | | | | 44 | 139 | 0 | 65 | | UGGS |
| Nov 18 1100 | 1,368 | 48 | 10.8 | 93 | 602 | 7.3 | 29 / 1.45 | 21 / 1.71 | 74 / 3.22 | 3.2 / 0.09 | 0 / 0.00 | 210 / 3.44 | | 35 / 0.99 | | | 0.23 | | | | 50 | 158 | 0 | 20 | | UGGS |
| Dec 13 1415 | 252 | 50 | 10.2 | 90 | 1020 | 6.9 | 44 / 2.20 | 37 / 3.04 | 121 / 5.70 | 2.8 / 0.07 | 0 / 0.00 | 288 / 4.72 | | 77 / 2.17 | | | 0.35 | | | | 52 | 262 | 26 | 50 | | UGGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform.[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Colusa Trough near Colusa** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1215 | 3,170 | 49 | 9.8 | 86 | 269 | 7.2 | 15 / 0.748 | 9.4 / 0.772 | 26 / 1.131 | 3.0 / 0.077 | 0 / 0.000 | 110 / 1.803 | | 11 / 0.310 | | | 0.09 | | | | 41 | 76 | 0 | 200 | | USGS |
| Feb 8 1100 | 529 | 52 | 10.3 | 98 | 1,070 | 7.8 | 58 / 2.89 | 37 / 3.03 | 126 / 5.48 | 1.8 / 0.05 | 10 / 0.33 | 290 / 4.75 | | 87 / 2.45 | | | 0.26 | | | | 48 | 296 | 42 | 80 | | USGS |
| Mar 14 0930 | 249 | 51 | 10.8 | 97 | 1,110 | 7.8 | 58 / 2.89 | 45 / 3.67 | 144 / 6.26 | 1.4 / 0.04 | 9 / 0.30 | 310 / 5.08 | | 103 / 2.90 | | | 0.26 | | | | 49 | 328 | 59 | 15 | | USGS |
| Apr 11 0945 | 493 | 52 | 9.7 | 88 | 445 | 7.0 | 27 / 1.347 | 17 / 1.393 | 41 / 1.784 | 2.1 / 0.054 | 0 / 0.000 | 172 / 2.819 | | 23 / 0.649 | | | 0.26 | | | | 39 | 137 | 0 | 80 | | USGS |
| May 14 1030 | 1,290 | 63 | 8.2 | 85 | 380 | 7.7 | 20 / 0.998 | 15 / 1.222 | 41 / 1.784 | 1.7 / 0.043 | 0 / 0.000 | 151 / 2.475 | 53 / 1.103 | 18 / 0.508 | 0.8 / 0.013 | 0.2 / 0.011 | 0.17 | 9.9 | Fe 0.06; Al 0.10; Cu 0.01; Zn 0.02; (a) $PO_4$ 0.20 | 234[b] | 42 | 111 | 0 | 100 | | USGS |
| June 18 1020 | 661 | 73 | 7.3 | 84 | 405 | 7.5 | 23 / 1.148 | 16 / 1.292 | 42 / 1.827 | 1.3 / 0.033 | 0 / 0.000 | 166 / 2.721 | | 20 / 0.564 | | | 0.00 | | | | 42 | 122 | 0 | 35 | | USGS |
| July 23 1110 | 843 | 81 | 6.7 | 83 | 383 | 7.5 | 24 / 1.198 | 16 / 1.310 | 38 / 1.653 | 1.6 / 0.041 | 0 / 0.000 | 188 / 3.081 | | 15 / 0.423 | | | 0.21 | | | | 39 | 125 | 0 | 20 | | USGS |
| Aug 20 1120 | 993 | 72 | 8.0 | 91 | 385 | 7.4 | 25 / 1.248 | 15 / 1.212 | 38 / 1.653 | 1.4 / 0.036 | 0 / 0.000 | 181 / 2.967 | | 14 / 0.395 | | | 0.12 | | | | 40 | 123 | 0 | 16 | | USGS |
| Sept 11 1140 | 1,380 | 67 | 7.8 | 84 | 390 | 7.5 | 24 / 1.198 | 16 / 1.322 | 39 / 1.696 | 1.9 / 0.049 | 0 / 0.000 | 184 / 3.016 | 33 / 0.687 | 17 / 0.479 | 0.9 / 0.015 | 0.4 / 0.021 | 0.10 | 17 | Al 0.15; Cu 0.02; $PO_4$ 0.25; (a) | 240[b] | 40 | 126 | 0 | 30 | | USGS |
| Oct 25 1210 | 406 | 54 | 10.0 | 93 | 405 | 7.7 | 22 / 1.098 | 15 / 1.202 | 42 / 1.827 | 2.2 / 0.056 | 0 / 0.000 | 163 / 2.672 | | 22 / 0.620 | | | 0.00 | | | | 44 | 115 | 0 | 30 | | USGS |
| Nov 19 0930 | 269 | 46 | 12.0 | 100 | 571 | 7.4 | 28 / 1.40 | 21 / 1.72 | 62 / 2.70 | 2.7 / 0.07 | 0 / 0.00 | 200 / 3.28 | | 23 / 0.93 | | | 0.7 | | | | 46 | 156 | 0 | 40 | | USGS |
| Dec 11 1600 | 294 | 44 | 12.4 | 101 | 508 | 7.7 | 25 / 1.25 | 17 / 1.39 | 54 / 2.35 | 2.5 / 0.06 | 0 / 0.00 | 178 / 2.92 | | 30 / 0.85 | | | 0.01 | | | | 47 | 132 | 0 | 20 | median 960 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 620 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 1300 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Cosumnes River near Michigan Bar | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1355 | 1,800 | 42 | 11.9 | 94 | 105 | 7.1 | 10 / 0.499 | 4.4 / 0.361 | 4.7 / 0.204 | 0.6 / 0.015 | 0 / 0.000 | 51 / 0.836 | | 1.8 / 0.051 | | | 0.00 | | | | 19 | 43 | 1 | 40 | | [illegible] |
| Feb 15 1030 | 223 | 46 | 11.6 | 97 | 122 | 7.2 | 11 / 0.549 | 6.1 / 0.501 | 4.6 / 0.200 | 0.9 / 0.023 | 0 / 0.000 | 60 / 0.983 | | 2.5 / 0.071 | | | 0.02 | | | | 16 | 52 | 3 | 0.5 | | [illegible] |
| Mar 15 0900 | 420 | 47 | 11.8 | 100 | 82.2 | 7.2 | 8.0 / 0.399 | 3.9 / 0.321 | 3.6 / 0.157 | 0.9 / 0.023 | 0 / 0.000 | 43 / 0.705 | | 1.5 / 0.042 | | | 0.03 | | | | 17 | 36 | 1 | 1 | | [illegible] |
| Apr 19 1015 | 574 | 48 | 11.7 | 100 | 116 | 7.4 | 8.2 / 0.409 | 7.2 / 0.591 | 4.2 / 0.183 | 0.9 / 0.023 | 0 / 0.000 | 64 / 1.049 | | 1.4 / 0.039 | | | 0.00 | | | | 15 | 50 | 0 | 10 | | [illegible] |
| May 20 1210 | 448 | 58 | 9.7 | 94 | 59.9 | 7.7 | 8.8 / 0.439 | 0.5 / 0.041 | 3.6 / 0.157 | 1.7 / 0.043 | 0 / 0.000 | 36 / 0.590 | 2.7 / 0.056 | 0.5 / 0.014 | 0.3 / 0.005 | 0.1 / 0.005 | 0.00 | 19 | Fe 0.04; (a) $PO_4$ 0.00 | 55[b] | 23 | 24 | 0 | 1 | | [illegible] |
| Jun 24 1220 | 79 | 72 | 10.0 | 113 | 66.8 | 8.0 | 6.8 / 0.339 | 2.7 / 0.221 | 3.4 / 0.148 | 1.0 / 0.026 | 0 / 0.000 | 40 / 0.656 | | 0.8 / 0.023 | | | 0.06 | | | | 20 | 28 | 0 | 1 | | [illegible] |
| Jul 18 0830 | 25 | 72 | 6.3 | 72 | 111 | 6.8 | 8.1 / 0.404 | 4.3 / 0.356 | 5.6 / 0.244 | 1.7 / 0.043 | 0 / 0.000 | 46 / 0.754 | | 2.5 / 0.071 | | | 0.24 | | | | 23 | 38 | 0 | 4 | | [illegible] |
| Aug 22 1000 | 4.0* | 80 | 10.7 | 132 | 120 | 8.0 | 11 / 0.549 | 5.7 / 0.471 | 4.8 / 0.209 | 1.3 / 0.033 | 3 / 0.100 | 65 / 1.065 | | 2.5 / 0.071 | | | 0.00 | | | | 17 | 51 | 0 | 1 | | [illegible] |
| Sep 20 1120 | 9.1 | 71 | 10.1 | 114 | 139 | 8.1 | 13 / .649 | 6.1 / 0.501 | 5.3 / 0.230 | 1.3 / [illegible] | 0 / [illegible] | 77 / 1.262 | 0.9 / 0.04 | 2.5 / 0.071 | 0.0 / 0.000 | 0.2 / 0.011 | 0.02 | 16 | Fe 0.06; Al 0.02; Cu 0.01; Zn 0.02; (a) | 84[b] | 16 | 52 | 0 | 1 | | [illegible] |
| Oct 17 1010 | 9.1 | 64 | 9.1 | 95 | 132 | 7.7 | 11 / .549 | 6.3 / .519 | 5.6 / 0.244 | 1.3 / [illegible] | 0 / [illegible] | 76 / 1.246 | | 2.0 / [illegible] | | | 0.09 | | | | 18 | 53 | 0 | 2 | | [illegible] |
| Nov 21 0920 | [illegible] | 49 | 10.1 | 98 | 86.8 | 7.3 | 9.2 / .459 | 3.4 / .281 | 4.2 / .183 | 1.4 / 0.036 | 0 / 0.000 | 43 / .707 | | 3.5 / 0.099 | | | 0.00 | | | | 19 | 37 | 0 | 20 | | [illegible] |
| Dec 19 1130 | [illegible] | 49 | 10.5 | 92 | 106 | 7.3 | 9.2 / .459 | 4.6 / .381 | 4.4 / .191 | 1.0 / 0.026 | 0 / 0.000 | 47 / 0.770 | | 3.0 / 0.085 | | | 0.11 | | | | 18 | 42 | 3 | 5 | | [illegible] |

* Not revised

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Cosumnes River near Michigan Bar | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 0945 | 8,350 | 47 | 12.0 | 102 | 54.1 | 7.3 | 4.8 / 0.240 | 2.2 / 0.180 | 1.8 / 0.078 | 1.1 / 0.028 | 0 / 0.000 | 28 / 0.459 | | 1.0 / 0.028 | | | 0.03 | | | | 15 | 21 | 0 | 80 | | USGS |
| Feb 14 1000 | 830 | 43 | 12.4 | 99 | 76.3 | 7.5 | 7.2 / 0.359 | 2.9 / 0.239 | 3.1 / 0.135 | 0.9 / 0.023 | 0 / 0.000 | 41 / 0.672 | | 1.4 / 0.039 | | | 0.00 | | | | 18 | 30 | 0 | 4 | | USGS |
| Mar 19 0930 | 776 | 50 | 11.4 | 100 | 72.2 | 7.3 | 6.2 / 0.309 | 3.2 / 0.261 | 3.1 / 0.135 | 0.9 / 0.023 | 0 / 0.000 | 38 / 0.623 | | 3.5 / 0.099 | | | 0.19 | | | | 19 | 28 | 0 | 2 | | USGS |
| Apr 16 0935 | 722 | 49 | 11.5 | 100 | 66.6 | 7.3 | 5.5 / 0.274 | 3.0 / 0.246 | 2.9 / 0.126 | 1.0 / 0.026 | 0 / 0.000 | 39 / 0.639 | | 1.0 / 0.028 | | | 0.01 | | | | 19 | 26 | 0 | 5 | | USGS |
| May 14 0840 | 1,360 | 52 | 11.3 | 102 | 50.7 | 7.3 | 5.4 / 0.269 | 1.7 / 0.151 | 2.6 / 0.113 | 0.8 / 0.020 | 0 / 0.000 | 32 / 0.524 | 1.6 / 0.033 | 0.0 / 0.000 | 0.1 / 0.002 | 0.2 / 0.011 | 0.00 | 17 | Fe 0.06; Al 0.05; Cu 0.01; Zn 0.02; (a) $PO_4$ 0.00 | 45[b] | 21 | 21 | 0 | 1 | | USGS |
| June 19 0840 | 254 | 70 | 8.7 | 97 | 54.6 | 7.3 | 5.0 / 0.250 | 2.2 / 0.178 | 2.8 / 0.122 | 1.3 / 0.033 | 0 / 0.000 | 34 / 0.557 | | 0.4 / 0.011 | | | 0.06 | | | | 21 | 21 | 0 | 2 | | USGS |
| July 26 1410 | 51 | 84 | 8.5 | 109 | 69.6 | 6.8 | 6.4 / 0.319 | 2.8 / 0.229 | 3.5 / 0.152 | 1.4 / 0.036 | 0 / 0.000 | 42 / 0.688 | | 1.0 / 0.028 | | | 0.07 | | | | 21 | 27 | 0 | 0.4 | | USGS |
| Aug 20 0900 | 32 | 72 | 8.5 | 97 | 80.4 | 7.5 | 8.5 / 0.424 | 2.6 / 0.214 | 3.8 / 0.165 | 1.3 / 0.033 | 0 / 0.000 | 48 / 0.787 | | 0.7 / 0.020 | | | 0.00 | | | | 20 | 32 | 0 | 2 | | USGS |
| Sept 11 1020 | 21 | 72 | 9.3 | 105 | 89.0 | 7.2 | 8.9 / 0.444 | 3.4 / 0.278 | 4.0 / 0.174 | 1.5 / 0.038 | 0 / 0.000 | 52 / 0.852 | 1.9 / 0.040 | 1.0 / 0.028 | 0.0 / 0.000 | 0.3 / 0.016 | 0.00 | 16 | Fe 0.02; Al 0.01; Cu 0.02; Zn 0.01; $PO_4$ 0.00; (a) | 63[b] | 19 | 36 | 0 | 0.3 | | USGS |
| Oct 18 1200 | 31 | 63 | 10.0 | 111 | 84.3 | 6.0 | 8.0 / 0.399 | 3.2 / 0.261 | 2.8 / 0.165 | 1.2 / 0.031 | 0 / 0.00 | 48 / 0.787 | | 2.4 / 0.068 | | | 0.00 | | | | 19 | 33 | 0 | | | USGS |
| Nov 19 0920 | 52 | 55 | 11.2 | 105 | 81.0 | 7.3 | 8.0 / 0.40 | 2.6 / 0.21 | 3.6 / 0.16 | 1.4 / 0.04 | 0 / 0.00 | 44 / 0.72 | | 1.7 / 0.05 | | | 0.00 | | | | 20 | 30 | 0 | 0.4 | | USGS |
| Dec 17 0845 | 70 | 42 | 12.9 | 102 | 82.4 | 7.1 | 8.2 / 0.41 | 2.6 / 0.21 | 2.5 / 0.15 | 1.4 / 0.04 | 0 / 0.00 | 42 / 0.69 | | 1.5 / 0.04 | | | 0.02 | | | | 19 | 31 | 0 | 1.0 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Cottonwood Creek near Cottonwood | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 1 15[illegible] | 492 | 45 | 11.7 | 97 | 263 | 7.5 | 26 / 1.297 | 10 / 0.823 | 11 / 0.479 | 0.9 / 0.023 | 0 / 0.000 | 122 / 1.999 | | 13 / 0.367 | | | 0.02 | | | | 18 | 108 | 8 | 15 | | USGS |
| Feb 7 [illegible] | 520 | 42 | 11.0 | 87 | 278 | 7.5 | 28 / 1.397 | 12 / 1.23 | 12 / 0.522 | 0.8 / 0.20 | 0 / 0.000 | 138 / 2.262 | | 9.5 / 0.268 | | | 0.03 | | | | 18 | 121 | 8 | 1 | | USGS |
| [illegible] 3 [illegible] | 369 | 50 | 11.0 | 99 | 2[illegible]3 | 7.9 | 27 / 1.347 | 12 / .973 | 11 / 0.479 | 1.0 / 0.025 | 2 / 0.067 | 127 / 2.081 | | 11 / 0.310 | | | 0.00 | | | | 17 | 116 | 9 | 3 | | USGS |
| Apr 1 1915 | 369 | 53 | 10.0 | 92 | 232 | 7.3 | 24 / 1.197 | 11 / .902 | 9.5 / 0.413 | 0.8 / 0.20 | 0 / 0.000 | 126 / 2.065 | | 9.4 / 0.265 | | | 0.05 | | | | 16 | 106 | 3 | 3 | | USGS |
| May 11 1915 | 279 | 72 | 7.5 | 84 | 150 | 7.2 | 13 / 0.649 | 7.4 / 0.611 | 7.0 / 0.304 | 2.7 / 0.069 | 0 / 0.000 | 77 / 1.262 | 9.8 / 0.204 | 2.8 / 0.079 | 1.2 / 0.019 | 0.2 / 0.011 | 0.16 | 23 | Fe 0.02; Al 0.14; (a) $PO_4$ 0.65 | 105[b] | 19 | 63 | 0 | 1 | | USGS |
| Jan 15 [illegible] | 239 | 7[illegible] | 9.0 | 100 | 203 | 7.6 | 21 / 1.048 | 8.4 / [illegible] | 9.3 / 0.404 | 1.7 / 0.043 | 0 / 0.000 | 112 / 1.835 | | 6.2 / 0.175 | | | 0.07 | | | | 19 | 87 | 0 | 0.3 | | USGS |
| Oct 13 1920 | 92 | 74 | 9.1 | 110 | 214 | 7.2 | 17 / 0.848 | 12 / 0.992 | 8.7 / 0.379 | 1.2 / 0.031 | 0 / 0.000 | 117 / 1.917 | | 6.5 / 0.183 | | | 0.16 | | | | 17 | 92 | 0 | 1 | | USGS |
| [illegible] 17 [illegible] | 67 | 73 | 9.4 | 1[illegible] | 172 | 7.2 | 21 / [illegible] | 8.8 / 0.721 | 8.3 / 0.361 | 1.4 / 0.036 | 0 / 0.000 | 99 / 1.622 | | 4.0 / 0.113 | | | 0.08 | | | | 20 | 71 | 0 | 1 | | USGS |
| [illegible] 24 [illegible] | 86 | [illegible] | [illegible] | [illegible] | 1[illegible] | [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | 1.9 / [illegible] | [illegible] / [illegible] | [illegible] / 1.900 | 4.0 / [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] | 27 | Fe [illegible]; Al [illegible]; (a) | [illegible] | 20 | 66 | 0 | 0.8 | | USGS |
| [illegible] | 47 | [illegible] | [illegible] | [illegible] | [illegible] | 7.1 | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | [illegible] / [illegible] | | [illegible] / [illegible] | | | 0.00 | | | | 20 | 72 | 0 | 1 | | USGS |
| [illegible] | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible] 24 [illegible] | [illegible] | [illegible] | 11.3 | [illegible] | 2[illegible] | 6.8 | [illegible] / [illegible] | 11 / [illegible] | 11 / [illegible] | 1.0 / [illegible] | 0 / [illegible] | 117 / 1.918 | | [illegible] / 0.463 | | | [illegible] | | | | 18 | 109 | 13 | 5 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Cottonwood Creek near Cottonwood | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1530 | 6,750 | 47 | 11.3 | 96 | 172 | 7.0 | 19 / 0.948 | 8.0 / 0.660 | 5.0 / 0.218 | 0.9 / 0.023 | 0 / 0.000 | 94 / 1.541 | | 1.5 / 0.042 | | | 0.11 | | | | 12 | 80 | 3 | 200 | | USGS |
| Feb 7 1545 | [illegible] | 46 | 11.6 | 97 | 259 | 7.4 | 28 / 1.397 | 11 / 0.935 | 8.8 / 0.383 | 0.9 / 0.023 | 3 / 0.100 | 132 / 2.163 | | 3.6 / 0.102 | | | 0.01 | | | | 14 | 117 | 4 | 20 | | USGS |
| Mar 13 1440 | 1,560 | 49 | 10.0 | 87 | 251 | 7.4 | 27 / 1.347 | 11 / 0.941 | 7.7 / 0.335 | 0.7 / 0.018 | 2 / 0.067 | 130 / 2.131 | | 3.8 / 0.107 | | | 0.03 | | | | 13 | 114 | 4 | 15 | | USGS |
| Apr 10 1445 | 1,210 | 56 | 9.8 | 93 | 209 | 7.3 | 2.5 / 1.248 | 7.7 / 0.632 | 6.6 / 0.287 | 1.2 / 0.031 | 0 / 0.000 | 119 / 1.950 | | 3.4 / 0.096 | | | 0.00 | | | | 13 | 94 | 0 | 25 | | USGS |
| May 8 1350 | 1,840 | 58 | 9.9 | 97 | 196 | 7.4 | 20 / 0.998 | 9.6 / 0.790 | 6.6 / 0.287 | 0.8 / 0.020 | 0 / 0.000 | 110 / 1.803 | 10 / 0.208 | 2.2 / 0.062 | 0.4 / 0.006 | 0.2 / 0.011 | 0.03 | 18 | Fe 0.08; Al 0.06; Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 122[b] | 14 | 89 | 0 | 75 | | USGS |
| June 12 1315 | 465 | 74 | 8.5 | 98 | 209 | 7.3 | 21 / 1.048 | 10 / 0.820 | 7.1 / 0.309 | 1.1 / 0.028 | 0 / 0.000 | 114 / 1.868 | | 4.8 / 0.135 | | | 0.00 | | | | 14 | 93 | 0 | 1 | | USGS |
| July 17 1410 | 177 | 83 | 8.7 | 110 | 224 | 7.5 | 23 / 1.148 | 10 / 0.852 | 8.9 / 0.387 | 1.4 / 0.036 | 0 / 0.000 | 128 / 2.098 | | 6.8 / 0.192 | | | 0.03 | | | | 16 | 100 | 0 | 2 | | USGS |
| Aug 14 1230 | 92 | 73 | 9.1 | 104 | 206 | 7.3 | 20 / 0.998 | 10 / 0.822 | 8.6 / 0.374 | 1.5 / 0.038 | 0 / 0.000 | 119 / 1.950 | | 3.2 / 0.090 | | | 0.13 | | | | 17 | 91 | 0 | 3 | | USGS |
| Sept 18 1315 | 90 | 67 | 8.1 | 87 | 187 | 6.8 | 18 / 0.898 | 9.0 / 0.742 | 7.8 / 0.339 | 1.2 / 0.031 | 0 / 0.000 | 110 / 1.803 | 6.1 / 0.127 | 3.8 / 0.107 | 0.6 / 0.010 | 0.1 / 0.005 | 0.02 | 26 | Fe 0.08; Al 0.10; Cu 0.01; Zn 0.01; (a) | 127[b] | 17 | 82 | 0 | 95 | | USGS |
| Oct 16 1330 | 137 | 61 | 10.2 | 103 | 181 | 7.3 | 18 / 0.898 | 7.6 / 0.626 | 7.9 / 0.344 | 1.0 / 0.026 | 0 / 0.000 | 101 / 1.655 | | 6.9 / 0.195 | | | 0.01 | | | | 18 | 76 | 0 | 4 | | USGS |
| Nov 19 1230 | 100 | 50 | 10.9 | 96 | 272 | 7.0 | 25 / 1.248 | 13 / 1.056 | 12 / 0.522 | 1.0 / 0.026 | 0 / 0.000 | 139 / 2.278 | | 15 / 0.423 | | | 0.02 | | | | 18 | 115 | 1 | 1.0 | | USGS |
| Dec 11 1240 | 95 | 47 | 11.3 | 96 | 279 | 7.3 | 27 / 1.35 | 13 / 1.06 | 11 / 0.48 | 0.9 / 0.02 | 0 / 0.00 | 142 / 2.33 | | 16 / 0.45 | | | 0.04 | | | | 16 | 120 | 4 | 0.9 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Deer Creek near Vina | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 0900 | 158 | 37 | 12.1 | 89 | 145 | 7.4 | 12 / 0.599 | 5.4 / 0.441 | 8.6 / 0.374 | 1.3 / 0.033 | 0 / 0.000 | 82 / 1.344 | | 4.2 / 0.118 | | | 0.03 | | | | 26 | 52 | 0 | 1 | | USGS |
| Feb 7 1045 | 144 | 43 | 11.0 | 88 | 146 | 7.8 | 12 / 0.599 | 6.5 / 0.531 | 9.0 / 0.391 | 1.6 / 0.041 | 0 / 0.000 | 83 / 1.360 | | 4.0 / 0.113 | | | 0.09 | | | | 25 | 56 | 0 | 0.5 | | USGS |
| Mar 2 0930 | 122 | 45 | 11.3 | 94 | 144 | 7.4 | 12 / 0.599 | 6.8 / 0.561 | 8.9 / 0.387 | 1.5 / 0.038 | 0 / 0.000 | 84 / 1.377 | | 4.5 / 0.127 | | | 0.10 | | | | 24 | 58 | 0 | 0.8 | | USGS |
| Apr 4 0930 | 127 | 46 | 11.5 | 98 | 121 | 7.4 | 7.7 / 0.384 | 7.0 / 0.572 | 7.0 / 0.304 | 1.3 / 0.033 | 0 / 0.000 | 76 / 1.246 | | 2.5 / 0.071 | | | 0.07 | | | | 24 | 48 | 0 | 2 | | USGS |
| May 11 1510 | 317 | 68 | 9.1 | 99 | 89.0 | 7.8 | 8.5 / 0.424 | 3.8 / 0.316 | 4.8 / 0.209 | 1.3 / 0.033 | 0 / 0.000 | 52 / 0.852 | 1.1 / 0.023 | 1.2 / 0.034 | 0.3 / 0.005 | 0.2 / 0.011 | 0.01 | 27 | Al 0.03; Zn 0.03; (a) $PO_4$ 0.05 | 74[b] | 21 | 37 | 0 | 1 | | USGS |
| Jun 15 1500 | 6.0 | 85 | 10.0 | 130 | 185 | 8.1 | 13 / 0.649 | 9.9 / 0.811 | 10 / 0.435 | 2.1 / 0.054 | 3.0 / 0.100 | 107 / 1.754 | | 4.0 / 0.113 | | | 0.13 | | | | 22 | 73 | 0 | 2 | | USGS |
| Jul 13 1515 | 2.0 | 94 | 11.3 | 113 | 256 | 7.8 | 17 / 0.848 | 16 / 1.292 | 14 / 0.609 | 2.7 / 0.069 | 6 / 0.200 | 152 / 2.491 | | 5.0 / 0.141 | | | 0.22 | | | | 22 | 107 | 0 | 0.8 | | USGS |
| Aug 17 1500 | 0.4 | 94 | 11.6 | 100 | 332 | 7.6 | 27 / 1.347 | 20 / 1.633 | 16 / 0.696 | 2.9 / 0.074 | 0 / 0.000 | 215 / 3.524 | | 6.0 / 0.169 | | | 0.18 | | | | 19 | 149 | 0 | 1 | | USGS |
| Sep 14 1515 | 1.1 | 71 | 11.0 | 124 | 326 | 7.4 | 34 / 1.697 | 14 / 1.151 | 15 / 0.652 | 2.1 / 0.054 | 0 / 0.000 | 203 / 3.327 | 4.8 / 0.100 | 4.5 / 0.13[illegible] | 0.1 / 0.002 | 0.1 / 0.005 | 0.12 | 46 | Al 0.05; Cu 0.01; (a) | 224[b] | 18 | 142 | 0 | 0.7 | | USGS |
| Oct 12 1[illegible] | 19 | 74 | 9.9 | 115 | 183 | 7.5 | 14 / 0.699 | 7.8 / 0.641 | 13 / 0.566 | 3.4 / 0.087 | 0 / 0.000 | 105 / 1.721 | | 4.0 / 0.113 | | | 0.19 | | | | 28 | 67 | 0 | 3 | | USGS |
| Nov 1[illegible] 1[illegible] | 83 | 43 | 11.7 | [illegible] | 1[illegible] | 6.8 | 1[illegible] / 0.57[illegible] | 7.0 / 0.573 | 13 / 0.522 | 1.8 / 0.046 | 0 / 0.000 | 95 / 1.557 | | 5.5 / 0.155 | | | 0.14 | | | | 30 | 59 | 0 | 3 | | USGS |
| Dec 1[illegible] 1[illegible] | 120 | 47 | 12.0 | [illegible] | 144 | 6.8 | 11 / 0.549 | 6.2 / 0.511 | 9.2 / 0.400 | 1.6 / 0.041 | 0 / 0.000 | 84 / 1.377 | | 4.0 / 0.113 | | | 0.09 | | | | 27 | 53 | 0 | 2 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Deer Creek near Vina | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1240 | 2,080 | 45 | 12.5 | 103 | 65.5 | 6.8 | 6.0 / 0.299 | 2.8 / 0.231 | 2.8 / 0.122 | 0.8 / 0.020 | 0 / 0.000 | 40 / 0.656 | | 0.8 / 0.023 | | | 0.02 | | | | 18 | 26 | 0 | 30 | | USGS |
| Feb 7 1300 | 393 | 46 | 11.8 | 99 | 102 | 6.8 | 7.5 / 0.374 | 4.7 / 0.390 | 5.7 / 0.248 | 1.2 / 0.031 | 0 / 0.000 | 59 / 0.967 | | 2.3 / 0.065 | | | 0.08 | | | | 24 | 38 | 0 | 2 | | USGS |
| Mar 13 1240 | 429 | 48 | 11.9 | 102 | 98.5 | 7.0 | 8.0 / 0.399 | 4.4 / 0.361 | 5.2 / 0.226 | 1.0 / 0.026 | 0 / 0.000 | 56 / 0.918 | | 3.0 / 0.085 | | | 0.02 | | | | 22 | 38 | 0 | 4 | | USGS |
| Apr 10 1240 | 429 | 52 | 10.9 | 99 | 76.6 | 7.2 | 6.0 / 0.299 | 3.4 / 0.281 | 4.5 / 0.196 | 1.1 / 0.028 | 0 / 0.000 | 45 / 0.738 | | 0.0 / 0.000 | | | 0.09 | | | | 24 | 29 | 0 | 2 | | USGS |
| May 8 1200 | 731 | 55 | 10.6 | 100 | 63.8 | 6.8 | 5.6 / 0.279 | 3.2 / 0.261 | 3.3 / 0.144 | 0.9 / 0.023 | 0 / 0.000 | 43 / 0.705 | 0.0 / 0.000 | 0.5 / 0.014 | 0.2 / 0.003 | 0.1 / 0.005 | 0.07 | 25 | Fe 0.03; Al 0.01; (a) $PO_4$ 0.00 | 60[b] | 20 | 27 | 0 | 3 | | USGS |
| June 12 1100 | 208 | 68 | 9.0 | 109 | 91.6 | 7.5 | 8.8 / 0.439 | 3.4 / 0.281 | 5.1 / 0.222 | 1.3 / 0.033 | 0 / 0.000 | 55 / 0.901 | | 2.2 / 0.062 | | | 0.00 | | | | 23 | 36 | 0 | 1 | | USGS |
| July 17 1100 | 23 | 78 | 8.6 | 104 | 139 | 7.5 | 11 / 0.549 | 6.6 / 0.543 | 8.6 / 0.374 | 1.9 / 0.049 | 0 / 0.000 | 88 / 1.442 | | 2.5 / 0.070 | | | 0.12 | | | | 25 | 55 | 0 | 0.7 | | USGS |
| Aug 14 1040 | 2.3 | 74 | 7.1 | 82 | 218 | 7.3 | 18 / 0.898 | 12 / 0.982 | 11 / 0.478 | 2.6 / 0.067 | 0 / 0.000 | 136 / 2.229 | | 2.7 / 0.076 | | | 0.08 | | | | 20 | 94 | 0 | 0.9 | | USGS |
| Sept 13 1115 | 7.5 | 70 | 6.7 | 75 | 256 | 7.0 | 20 / 0.998 | 15 / 1.274 | 13 / 0.566 | 2.9 / 0.074 | 0 / 0.000 | 161 / 2.639 | 3.8 / 0.079 | 4.0 / 0.113 | 0.2 / 0.003 | 0.3 / 0.016 | 0.11 | 41 | Fe 0.02; Al 0.06; $PO_4$ 0.15; (a) | 179[b] | 19 | 114 | 0 | 0.8 | | USGS |
| Oct 16 1140 | 9.0 | 63 | 9.8 | 101 | 221 | 7.3 | 18 / 0.898 | 11 / 0.902 | 12 / 0.522 | 2.2 / 0.056 | 0 / 0.000 | 134 / 2.196 | | 5.4 / 0.152 | | | 0.08 | | | | 22 | 90 | 0 | 0.6 | | USGS |
| Nov 19 1400 | 72 | 48 | 12.2 | 105 | 150 | 6.8 | 12 / 0.60 | 6.3 / 0.52 | 10 / 0.44 | 2.0 / 0.05 | 0 / 0.00 | 89 / 1.46 | | 4.0 / 0.11 | | | 0.09 | | | | 27 | 56 | 0 | 0.3 | | USGS |
| Dec 11 1100 | 76 | 40 | 12.7 | 98 | 150 | 7.5 | 11 / 0.55 | 7.4 / 0.61 | 10 / 0.44 | 1.9 / 0.05 | 0 / 0.00 | 90 / 1.48 | | 4.0 / 0.11 | | | 0.20 | | | | 27 | 58 | 0 | 0.3 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| Tidal Area | | | | | | | | | | | Delta-Cross Channel near Walnut Grove | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 21 1430 | | 44 | 10.6 | 86 | 145 | 7.3 | 12 / 0.599 | 5.6 / 0.461 | 9.2 / 0.400 | 1.0 / 0.026 | 0 / 0.000 | 63 / 1.032 | | 7.0 / 0.197 | | | 0.21 | | | | 27 | 53 | 1 | 55 | | USGS |
| Feb 14 1030 | | 50 | 10.2 | 90 | 253 | 7.4 | 18 / 0.898 | 10 / 0.842 | 18 / 0.783 | 1.2 / 0.031 | 0 / 0.000 | 98 / 1.606 | | 19 / 0.536 | | | 0.06 | | | | 31 | 87 | 7 | 3 | | USGS |
| Mar 14 1030 | | 52 | 9.8 | 89 | 157 | 7.3 | 13 / 0.649 | 7.4 / 0.611 | 9.2 / 0.400 | 1.1 / 0.028 | 0 / 0.000 | 74 / 1.213 | | 7.0 / 0.197 | | | 0.12 | | | | 24 | 63 | 2 | 7 | | USGS |
| Apr 18 0940 | | 56 | 9.7 | 83 | 160 | 7.4 | 11 / 0.549 | 6.4 / 0.527 | 9.6 / 0.417 | 1.4 / 0.036 | 0 / 0.000 | 78 / 1.278 | | 8.2 / 0.231 | | | 0.16 | | | | 27 | 54 | 0 | 7 | | USGS |
| May 16 1230 | | 61 | 9.3 | 93 | 149 | 7.3 | 11 / 0.549 | 4.8 / 0.391 | 11 / 0.478 | 1.0 / 0.026 | 0 / 0.000 | 64 / 1.049 | 10 / 0.208 | 8.2 / 0.231 | 0.7 / 0.011 | 0.1 / 0.005 | 0.06 | 17 | Al 0.05; (a) $PO_4$ 0.15 | 96[b] | 33 | 47 | 0 | 10 | | USGS |
| Jun 20 1145 | | 69 | 8.9 | 98 | 190 | 7.6 | 12 / 0.599 | 7.6 / 0.621 | 15 / 0.652 | 1.2 / 0.031 | 0 / 0.000 | 81 / 1.327 | | 12 / 0.338 | | | 0.06 | | | | 34 | 61 | 0 | 7 | | USGS |
| Jul 20 0815 | | 70 | 8.0 | 89 | 210 | 7.0 | 13 / 0.649 | 8.4 / 0.691 | 17 / 0.739 | 1.9 / 0.049 | 0 / 0.000 | 76 / 1.246 | | 12 / 0.338 | | | 0.14 | | | | 35 | 67 | 5 | 9 | | USGS |
| Aug 26 0950 | | 72 | 6.3 | 72 | 220 | 7.3 | 15 / 0.749 | 7.9 / 0.651 | 17 / 0.739 | 1.3 / 0.033 | 0 / 0.000 | 99 / 1.622 | | 12 / 0.338 | | | 0.12 | | | | 34 | 70 | 0 | 20 | | USGS |
| Sep 23 0945 | | 65 | 6.0 | 63 | 257 | 7.3 | 18 / 0.898 | 11 / 0.902 | 17 / 0.739 | 1.8 / 0.046 | 0 / 0.000 | 118 / 1.934 | 14 / 0.291 | 14 / 0.395 | 0.6 / 0.010 | 0.2 / 0.011 | 0.07 | 26 | Fe 0.01; Al 0.09; Cu 0.02; (a) | 161[b] | 29 | 89 | 0 | 15 | | USGS |
| Oct 20 1020 | | 64 | 6.6 | 69 | 188 | 7.3 | 15 / 0.748 | 7.4 / 0.608 | 12 / 0.522 | 1.6 / 0.041 | 0 / 0.000 | 88 / 1.442 | | 7.0 / 0.197 | | | 0.06 | | | | 27 | 68 | 0 | 10 | | USGS |
| Nov 25 1050 | | 48 | 8.8 | 76 | 141 | 7.3 | 10 / 0.499 | 4.9 / 0.401 | 8.2 / 0.357 | 1.5 / 0.038 | 0 / 0.000 | 52 / 0.852 | | 8.2 / 0.231 | | | 0.08 | | | | 29 | 45 | 0 | 340 | | USGS |
| Dec 22 1115 | | 53 | 9.5 | 87 | 116 | 7.3 | 8.8 / 0.439 | 4.5 / 0.373 | 6.9 / 0.300 | 2.2 / 0.056 | 0 / 0.000 | 48 / 0.787 | | 6.1 / 0.172 | | | 0.00 | | | | 26 | 41 | 2 | 35 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 620 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Delta-Cross Channel near Walnut Grove** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1130 | | 48 | 11.2 | 96 | 64.9 | 7.1 | 5.9 / 0.294 | 3.1 / 0.258 | 2.3 / 0.100 | 0.9 / 0.023 | 0 / 0.000 | 33 / 0.541 | | 1.3 / 0.037 | | | 0.06 | | | | 15 | 28 | 1 | 110 | | USGS |
| Feb 17 1120 | | 44 | 11.1 | 90 | 149 | 7.5 | 13 / 0.649 | 6.2 / 0.511 | 7.1 / 0.309 | 1.1 / 0.028 | 0 / 0.000 | 74 / 1.213 | | 4.9 / 0.138 | | | 0.03 | | | | 21 | 58 | 0 | 60 | | USGS |
| Mar 22 1130 | | 52 | 10.7 | 97 | 131 | 7.3 | 12 / 0.599 | 5.4 / 0.441 | 6.1 / 0.265 | 0.9 / 0.023 | 0 / 0.000 | 66 / 1.082 | | 6.0 / 0.169 | | | 0.17 | | | | 20 | 52 | 0 | 35 | | USGS |
| Apr 18 1430 | | 54 | 10.4 | 96 | 129 | 7.3 | 11 / 0.549 | 5.5 / 0.451 | 7.0 / 0.304 | 1.0 / 0.026 | 0 / 0.000 | 65 / 1.065 | | 5.1 / 0.144 | | | 0.02 | | | | 23 | 50 | 0 | 35 | | USGS |
| May 16 1330 | | 59 | 9.9 | 98 | 105 | 7.3 | 12 / 0.599 | 2.7 / 0.225 | 5.6 / 0.244 | 1.1 / 0.028 | 0 / 0.000 | 57 / 0.934 | 4.0 / 0.083 | 2.8 / 0.079 | 0.5 / 0.008 | 0.3 / 0.016 | 0.03 | 19 | Fe[+3] 0.11; Al 0.03; Cu 0.01; Zn 0.01; $PO_4$ 0.20; (a) | 76[b] | 22 | 41 | 0 | 30 | | USGS |
| June 21 1130 | | 68 | 7.7 | 84 | 125 | 7.5 | 10 / 0.499 | 7.1 / 0.581 | 7.9 / 0.344 | 0.9 / 0.023 | 0 / 0.000 | 61 / 1.000 | | 5.0 / 0.141 | | | 0.08 | | | | 24 | 54 | 4 | 6 | | USGS |
| July 20 1020 | | 70 | 8.1 | 90 | 163 | 7.0 | 12 / 0.599 | 6.5 / 0.537 | 12 / 0.522 | 1.1 / 0.028 | 0 / 0.000 | 76 / 1.246 | | 9.4 / 0.265 | | | 0.17 | | | | 31 | 57 | 0 | 5 | | USGS |
| Aug 17 1010 | | 70 | 7.7 | 86 | 166 | 7.0 | 12 / 0.599 | 6.8 / 0.561 | 13 / 0.565 | 1.0 / 0.026 | 0 / 0.000 | 78 / 1.278 | | 7.2 / 0.203 | | | 0.04 | | | | 32 | 58 | 0 | 8 | | USGS |
| Sept 12 0840 | | 68 | 7.5 | 82 | 199 | 6.8 | 15 / 0.748 | 7.9 / 0.648 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 96 / 1.573 | 11 / 0.229 | 9.8 / 0.276 | 0.8 / 0.013 | 0.0 / 0.000 | 0.07 | 20 | Fe 0.02; Al 0.05; Cu 0.01; $PO_4$ 0.25; (a) | 128[b] | 31 | 70 | 0 | 15 | | USGS |
| Oct 11 1230 | | 65 | 8.3 | 88 | 151 | 7.3 | 12 / 0.599 | 6.5 / 0.533 | 8.9 / 0.387 | 1.4 / 0.036 | 0 / 0.000 | 77 / 1.262 | | 6.3 / 0.178 | | | 0.02 | | | | 25 | 57 | 0 | 4 | | USGS |
| Nov 21 1240 | | 49 | 10.5 | 92 | 140 | 7.3 | 11 / 0.55 | 6.0 / 0.49 | 8.3 / 0.36 | 1.5 / 0.04 | 0 / 0.00 | 70 / 1.15 | | 5.5 / 0.16 | | | 0.00 | | | | 25 | 52 | 0 | 5 | | USGS |
| Dec 14 1205 | | 48 | 11.1 | 96 | 152 | 7.3 | 13 / 0.65 | 6.2 / 0.51 | 9.2 / 0.40 | 1.5 / 0.04 | 0 / 0.00 | 80 / 1.31 | | 5.0 / 0.14 | | | 0.02 | | | | 25 | 58 | 0 | 3 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 96 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Delta-Mendota Canal near Mendota | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0910 | No Flow | 43 | 11.5 | 93 | 946 | 8.1 | 45/2.25 | 21/1.72 | 116/5.04 | 3.2/0.08 | 0/0.00 | 136/2.23 | | 132/3.72 | | | 0.61 | | | | 55 | 198 | 86 | 10 | | USGS |
| Feb 9 1045 | 0 | 50 | 12.2 | 103 | 1220 | 8.3 | 58/2.89 | 27/2.23 | 162/7.04 | 3.2/0.08 | 0/0.00 | 141/2.31 | | 145/4.09 | | | 0.82 | | | | 58 | 256 | 140 | 9 | | USGS |
| Mar 7 1720 | 925 | 55 | 10.6 | 100 | 596 | 8.1 | 30/1.50 | 14/1.14 | 64/2.78 | 2.5/0.06 | 0/0.00 | 95/1.56 | | 88/2.48 | | | 0.18 | | | | 51 | 132 | 54 | 45 | | USGS |
| Apr 11 1710 | 1,940 | 62 | 9.5 | 98 | 456 | 8.0 | 25/1.248 | 15/1.216 | 42/1.826 | 2.5/0.064 | 0/0.000 | 95/1.557 | | 60/1.692 | | | 0.15 | | | | 42 | 123 | 45 | 28 | | USGS |
| May 9 1620 | 1,750 | 65 | 9.4 | 100 | 425 | 7.8 | 24/1.198 | 13/1.102 | 42/1.826 | 2.7/0.069 | 0/0.000 | 98/1.606 | 46/0.958 | 53/1.495 | 1.9/0.031 | 0.3/0.016 | 0.17 | 46 | Fe 0.1; Al 0.1; (a) $PO_4$ 0.30 | 277[b] | 44 | 115 | 35 | 22 | | USGS |
| Jun 13 1520 | 2,620 | 73 | 8.9 | 102 | 307 | 7.8 | 20/0.998 | 8.3/0.682 | 28/1.218 | 2.1/0.054 | 0/0.000 | 79/1.295 | | 36/1.015 | | | 0.17 | | | | 41 | 84 | 19 | 75 | | USGS |
| Jul 14 1230 | 2,590 | 77 | 8.0 | 96 | 456 | 7.0 | 26/1.297 | 13/1.083 | 45/1.957 | 3.1/0.079 | 0/0.000 | 95/1.557 | | 65/1.833 | | | 0.18 | | | | 44 | 119 | 41 | 60 | | USGS |
| Aug 16 1020 | 2,960 | 75 | 7.5 | 98 | 455 | 7.5 | 21/1.048 | 11/0.892 | 51/2.218 | 2.8/0.072 | 0/0.000 | 93/1.524 | | 73/2.059 | | | 0.04 | | | | 52 | 97 | 21 | 40 | | USGS |
| Sep 12 1740 | 1,600 | 76 | 7.4 | 88 | 599 | 7.5 | 22/1.10 | 14/1.18 | 73/3.17 | 3.6/0.09 | 0/0.00 | 98/1.61 | 42/0.87 | 108/3.05 | 1.0/0.02 | 0.2/0.01 | 0.18 | 19 | Fe 0.16; (a) | 331[b] | 57 | 114 | 34 | 40 | | USGS |
| Oct 10 1705 | 1,590 | 65 | 7.9 | 84 | 823 | 7.8 | 40/2.00 | 20/1.64 | 95/4.13 | 3.6/0.09 | 0/0.00 | 156/2.56 | | 143/4.03 | | | 0.26 | | | | 53 | 182 | 54 | 30 | | USGS |
| Nov 16 1155 | 230 | 49 | 9.6 | 84 | 866 | 7.8 | 42/2.10 | 21/1.72 | 104/4.52 | 4.2/0.11 | 0/0.00 | 157/2.57 | | 146/4.12 | | | 0.28 | | | | 53 | 191 | 62 | 100 | | USGS |
| Dec 12 1445 | 0 | 50 | 10.4 | 92 | 954 | 7.5 | 50/2.50 | 21/1.73 | 117/5.09 | 5.2/0.13 | 0/0.00 | 157/2.57 | | 166/4.68 | | | 0.35 | | | | 54 | 212 | 83 | 20 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .045- | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

Note: All flows are Unrevised-Mean Daily

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Delta-Mendota Canal near Mendota | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 9 1610 | 0 | 50 | 12.6 | 111 | 935 | 7.9 | 49 / 2.45 | 21 / 1.71 | 114 / 4.96 | 4.2 / 0.11 | 0 / 0.00 | 154 / 2.52 | | 158 / 4.46 | | | 0.45 | | | | 54 | 208 | 82 | 6 | | USGS |
| Feb 6 1500 | 0 | 49 | 11.0 | 96 | 991 | 8.1 | 42 / 2.10 | 23 / 1.87 | 124 / 5.39 | 4.0 / 0.10 | 0 / 0.00 | 118 / 1.93 | | 160 / 4.51 | | | 0.56 | | | | 57 | 198 | 101 | 20 | | USGS |
| Mar 12 1445 | 0 | 54 | 13.0 | 120 | 929 | 8.1 | 42 / 2.10 | 21 / 1.76 | 117 / 5.09 | 3.4 / 0.09 | 4 / 0.13 | 249 / 4.08 | | 135 / 3.81 | | | 0.65 | | | | 56 | 193 | 0 | 3 | | USGS |
| Apr 9 1450 | 0 | 70 | 13.0 | 144 | 517 | 8.1 | 26 / 1.297 | 11 / 0.883 | 60 / 2.610 | 2.2 / 0.056 | 0 / 0.000 | 91 / 1.491 | | 60 / 1.692 | | | 0.48 | | | | 54 | 109 | 34 | 15 | | USGS |
| May 9 1245 | 410 | 65 | 8.9 | 94 | 393 | 7.9 | 21 / 1.048 | 10 / 0.856 | 44 / 1.914 | 2.1 / 0.054 | 0 / 0.000 | 79 / 1.295 | 48 / 0.999 | 51 / 1.438 | 1.7 / 0.027 | 0.3 / 0.016 | 0.24 | 19 | Fe 0.09; Al 0.07; Zn 0.01; $PO_4$ 0.25 | 236[b] | 49 | 95 | 30 | 50 | | USGS |
| June 13 0940 | 0 | 76 | 8.6 | 102 | 448 | 7.0 | 29 / 1.447 | 10 / 0.853 | 47 / 2.044 | 2.7 / 0.069 | 0 / 0.000 | 93 / 1.524 | | 49 / 1.382 | | | 0.00 | | | | 46 | 115 | 39 | 40 | | USGS |
| July 16 1450 | 2440 | 78 | 8.7 | 105 | 386 | 7.0 | 20 / 0.998 | 10 / 0.826 | 40 / 1.740 | 2.2 / 0.056 | 0 / 0.000 | 79 / 1.295 | | 58 / 1.636 | | | 0.15 | | | | 48 | 91 | 26 | 50 | | USGS |
| Aug 15 1050 | 2370 | 75 | 8.8 | 104 | 286 | 7.0 | 18 / 0.898 | 7.3 / 0.602 | 28 / 1.218 | 1.8 / 0.046 | 0 / 0.000 | 71 / 1.164 | | 34 / 0.959 | | | 0.14 | | | | 44 | 75 | 17 | 30 | | USGS |
| Sept 17 1400 | 1360 | 72 | 9.9 | 113 | 577 | 7.7 | 30 / 1.50 | 14 / 1.16 | 65 / 2.83 | 3.1 / 0.08 | 0 / 0.00 | 120 / 1.97 | 36 / 0.75 | 100 / 2.82 | 1.5 / 0.02 | 0.2 / 0.01 | 0.14 | 21 | Fe 0.02; Al 0.08; Cu 0.01; $PO_4$ 0.40; (a) | 330[b] | 51 | 133 | 35 | 20 | | USGS |
| Oct 8 1440 | 890 | 71 | 8.5 | 96 | 589 | 7.7 | 32 / 1.60 | 13 / 1.06 | 64 / 2.78 | 3.0 / 0.08 | 0 / 0.00 | 126 / 2.07 | | 93 / 2.62 | | | 0.20 | | | | 50 | 133 | 30 | 15 | | USGS |
| Nov 13 1410 | 0 | 57 | 12.1 | 116 | 576 | 8.4 | 30 / 1.50 | 13 / 1.06 | 65 / 2.83 | 3.3 / 0.08 | 0 / 0.00 | 117 / 1.92 | | 91 / 2.57 | | | 0.21 | | | | 52 | 128 | 32 | 20 | | USGS |
| Dec 10 1320 | 0 | 49 | 12.5 | 109 | 589 | 8.3 | 30 / 1.50 | 15 / 1.22 | 65 / 2.83 | 3.0 / 0.08 | 0 / 0.00 | 124 / 2.03 | | 91 / 2.57 | | | 0.19 | | | | 50 | 136 | 34 | 20 | median 4.2 minimum 0.045- maximum 62 | USGS |

Note: All flows are Unrevised-Mean Daily

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Delta-Mendota Canal near Tracy | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 0910 | Not Pumping | 44 | 9.7 | 79 | 717 | 7.3 | 33 / 1.65 | 16 / 1.28 | 89 / 3.87 | 3.8 / 0.10 | 0 / 0.00 | 118 / 1.93 | | 119 / 3.36 | | | 0.34 | | | | 56 | 146 | 49 | 40 | | USGS |
| Feb 21 1430 | " | 56 | 10.2 | 97 | 651 | 7.6 | 33 / 1.65 | 16 / 1.29 | 74 / 3.22 | 2.8 / 0.07 | 0 / 0.00 | 107 / 1.75 | | 98 / 2.76 | | | 0.31 | | | | 52 | 147 | 59 | 7 | | USGS |
| Mar 7 1030 | 860 | 55 | 13.1 | 123 | 656 | 8.2 | 29 / 1.45 | 17 / 1.39 | 72 / 3.13 | 2.3 / 0.06 | 0 / 0.00 | 105 / 1.72 | | 104 / 2.93 | | | 0.21 | | | | 52 | 142 | 56 | 15 | | USGS |
| Apr 11 1100 | 2574 | 62 | 8.9 | 91 | 370 | 7.6 | 22 / 1.098 | 13 / 1.098 | 36 / 1.565 | 2.3 / 0.059 | 0 / 0.000 | 90 / 1.475 | | 51 / 1.438 | | | 0.15 | | | | 41 | 110 | 36 | 14 | | USGS |
| May 9 1015 | 1730 | 64 | 8.1 | | 360 | 7.4 | 21 / 1.048 | 11 / 0.912 | 31 / 1.348 | 1.8 / 0.046 | 0 / 0.000 | 89 / 1.459 | 31 / 0.645 | 46 / 1.297 | 1.4 / 0.023 | 0.3 / 0.016 | 0.14 | 20 | $PO_4$ 0.20 | 208[b] | 40 | 98 | 25 | 25 | | USGS |
| Jun 13 0930 | 3300 | 68 | 8.1 | 88 | 222 | 7.6 | 14 / 0.699 | 7.3 / 0.601 | 20 / 0.870 | 1.5 / 0.038 | 0 / 0.000 | 54 / 0.885 | | 29 / 0.818 | | | 0.07 | | | | 39 | 65 | 21 | 15 | | USGS |
| Jul 19 0800 | 3406 | 71 | 7.1 | 80 | 298 | 7.0 | 14 / 0.699 | 10 / 0.841 | 26 / 1.131 | 2.1 / 0.054 | 0 / 0.000 | 73 / 1.196 | | 30 / 0.846 | | | 0.18 | | | | 42 | 77 | 17 | 40 | | USGS |
| Aug 23 0900 | 2490 | 76 | 6.8 | 80 | 583 | 7.3 | 26 / 1.30 | 15 / 1.26 | 63 / 2.74 | 3.4 / 0.09 | 0 / 0.00 | 114 / 1.87 | | 104 / 2.93 | | | 0.00 | | | | 51 | 128 | 35 | 40 | | USGS |
| Sep 22 [illegible]40 | 1660 | 67 | 6.3 | 68 | 765 | 7.5 | 36 / 1.80 | 19 / 1.56 | 90 / 3.91 | 4.0 / 0.10 | 0 / 0.00 | 140 / 2.29 | 50 / 1.04 | 132 / 3.49 | 2.8 / 0.05 | 0.5 / 0.03 | 0.24 | 19 | Fe 0.06; Al 0.03; Cu 0.02; (a) | 429[b] | 53 | 168 | 53 | 55 | | USGS |
| Oct 19 1145 | 865 | 64 | 9.2 | 96 | 1010 | 7.9 | 52 / 2.59 | 23 / 1.93 | 117 / 5.09 | 4.6 / 0.12 | 0 / 0.00 | 196 / 3.05 | | 177 / 4.99 | | | 0.33 | | | | 52 | 226 | 73 | 15 | | USGS |
| Nov 22 1315 | Not Pumping | 52 | 10.0 | 90 | 1030 | 7.7 | 54 / 2.69 | 23 / 1.93 | 119 / 5.18 | 5.2 / 0.13 | 0 / 0.00 | 171 / 2.80 | | 188 / 5.30 | | | 0.22 | | | | 52 | 231 | 91 | 70 | | USGS |
| Dec 20 1520 | " | 54 | 9.9 | 92 | 731 | 7.5 | 35 / 1.75 | 16 / 1.34 | 83 / 3.63 | 3.6 / 0.09 | 0 / 0.00 | 123 / 2.02 | | 127 / 3.58 | | | 0.33 | | | | 55 | 154 | 53 | 34 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 42 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .50 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp. in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Delta-Mendota Canal near Tracy** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 0830 | * | 49 | 8.7 | 76 | 468 | 7.3 | 19 / 0.948 | 9.9 / 0.812 | 59 / 2.566 | 2.9 / 0.074 | 0 / 0.000 | 84 / 1.377 | | 73 / 2.059 | | | 0.68 | | | | 58 | 83 | 19 | 80 | | USGS |
| Feb 16 0830 | * | 42 | 9.6 | 76 | 421 | 7.3 | 19 / 0.948 | 10 / 0.832 | 49 / 2.132 | 2.0 / 0.051 | 0 / 0.000 | 86 / 1.410 | | 61 / 1.720 | | | 0.46 | | | | 54 | 89 | 18 | 40 | | USGS |
| Mar 20 1430 | * | 59 | 10.7 | 105 | 466 | 7.5 | 26 / 1.297 | 11 / 0.923 | 45 / 1.958 | 2.2 / 0.056 | 0 / 0.000 | 96 / 1.573 | | 72 / 2.030 | | | 0.33 | | | | 46 | 111 | 32 | 20 | | USGS |
| Apr 17 1350 | 878 | 58 | 9.8 | 95 | 284 | 7.3 | 15 / 0.748 | 7.9 / 0.652 | 29 / 1.262 | 1.8 / 0.046 | 0 / 0.000 | 66 / 1.082 | | 39 / 1.100 | | | 0.10 | | | | 47 | 70 | 16 | 35 | | USGS |
| May 15 1330 | * | 65 | 9.0 | 95 | 182 | 7.3 | 14 / 0.699 | 2.9 / 0.241 | 18 / 0.783 | 1.3 / 0.033 | 0 / 0.000 | 47 / 0.770 | 15 / 0.312 | 25 / 0.705 | 1.0 / 0.016 | 0.3 / 0.016 | 0.11 | 14 | $Fe^{+3}$ 0.15; Al 0.05; Cu 0.02; Zn 0.01; $PO_4$ 0.30 (a) | 115[b] | 44 | 47 | 8 | 20 | | USGS |
| June 20 1040 | 878 | 70 | 8.2 | 91 | 190 | 7.6 | 10 / 0.499 | 4.8 / 0.393 | 20 / 0.870 | 1.5 / 0.038 | 0 / 0.000 | 53 / 0.869 | | 26 / 0.733 | | | 0.18 | | | | 48 | 45 | 2 | 40 | | USGS |
| July 24 0900 | 3,406 | 79 | 7.0 | 85 | 204 | 6.8 | 13 / 0.649 | 5.4 / 0.443 | 18 / 0.783 | 1.5 / 0.038 | 0 / 0.000 | 58 / 0.951 | | 25 / 0.705 | | | 0.14 | | | | 41 | 55 | 7 | 40 | | USGS |
| Aug 21 1245 | 2,546 | 74 | 8.1 | 94 | 305 | 7.3 | 18 / 0.898 | 8.6 / 0.706 | 30 / 1.305 | 1.8 / 0.046 | 0 / 0.000 | 78 / 1.278 | | 39 / 1.100 | | | 0.12 | | | | 44 | 80 | 16 | 20 | | USGS |
| Sept 13 1300 | 1,640 | 72 | 9.6 | 109 | 557 | 8.9 | 22 / 1.50 | 14 / 1.22 | 62 / 2.70 | 3.3 / 0.08 | 0 / 0.00 | 122 / 2.00 | 37 / 0.77 | 90 / 2.54 | 2.1 / 0.03 | 0.2 / 0.01 | 0.12 | 21 | Fe 0.02; Al 0.10; Cu 0.01; $PO_4$ 0.30; (a) | 320[b] | 50 | 131 | 31 | 15 | | USGS |
| Oct 15 0945 | 850 | 66 | 9.6 | 102 | 597 | 7.6 | 34 / 1.70 | 12 / 1.03 | 65 / 2.83 | 3.1 / 0.08 | 0 / 0.00 | 131 / 2.15 | | 97 / 2.74 | | | 0.22 | | | | 50 | 136 | 22 | 10 | | USGS |
| Nov 20 1105 | * | 51 | 9.1 | 82 | 732 | 7.7 | 26 / 1.30 | 18 / 1.46 | 85 / 3.70 | 3.4 / 0.09 | 0 / 0.00 | 130 / 2.13 | | 124 / 3.50 | | | 0.38 | | | | 52 | 160 | 56 | 20 | | USGS |
| Dec 18 1130 | * | 51 | 8.7 | 78 | 537 | 7.3 | 27 / 1.35 | 15 / 1.21 | 55 / 2.39 | 2.8 / 0.07 | 0 / 0.00 | 102 / 1.67 | | 88 / 2.48 | | | 0.23 | | | | 48 | 128 | 44 | 7 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| * Not Pumping | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Feather River at Nicolaus | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0945 | 4,790 | 39 | 11.7 | 90 | 108 | 7.2 | 12 / 0.599 | 3.3 / 0.271 | 4.1 / 0.178 | 0.8 / 0.020 | 0 / 0.000 | 53 / 0.869 | | 3.0 / 0.085 | | | 0.01 | | | | 17 | 44 | 1 | 45 | | USGS |
| Feb 9 0850 | 2,770 | 44 | 11.4 | 93 | 124 | 7.4 | 13 / 0.649 | 6.0 / 0.491 | 4.8 / 0.209 | 0.7 / 0.018 | 0 / 0.000 | 65 / 1.065 | | 4.0 / 0.113 | | | 0.02 | | | | 15 | 57 | 4 | 6 | | USGS |
| Mar 8 1340 | 2,960 | 50 | 11.5 | 101 | 122 | 7.4 | 13 / 0.649 | 5.2 / 0.431 | 4.8 / 0.209 | 0.9 / 0.023 | 0 / 0.000 | 65 / 1.065 | | 2.5 / 0.071 | | | 0.00 | | | | 16 | 54 | 1 | 10 | | USGS |
| Apr 5 1300 | 4,720 | 52 | 11.9 | 107 | 91.4 | 7.4 | 5.3 / 0.264 | 6.0 / 0.496 | 3.7 / 0.161 | 0.7 / 0.018 | 0 / 0.000 | 52 / 0.852 | | 0.6 / 0.017 | | | 0.00 | | | | 17 | 38 | 0 | 7 | | USGS |
| May 13 1230 | 12,600 | 61 | 9.2 | 93 | 69.9 | 7.3 | 7.6 / 0.379 | 2.7 / 0.221 | 2.4 / 0.104 | 0.8 / 0.020 | 0 / 0.000 | 39 / 0.639 | 3.0 / 0.062 | 0.5 / 0.014 | 0.3 / 0.005 | 0.1 / 0.005 | 0.10 | 15 | Al 0.1; (a) $FO_4$ 0.35 | 52[a] | 14 | 30 | 0 | 65 | | USGS |
| Jun 17 1330 | 1,950 | 75 | 8.7 | 102 | 95.0 | 7.4 | 10 / 0.499 | 3.3 / 0.273 | 4.2 / 0.183 | 1.0 / 0.026 | 0 / 0.000 | 53 / 0.869 | | 1.2 / 0.034 | | | 0.00 | | | | 19 | 39 | 0 | 0.9 | | USGS |
| Jul 15 1110 | 397 | 79 | 7.6 | 93 | 125 | 7.5 | 12 / 0.599 | 4.9 / 0.401 | 4.4 / 0.191 | 1.2 / 0.031 | 0 / 0.000 | 64 / 1.049 | | 2.5 / 0.071 | | | 0.07 | | | | 16 | 50 | 0 | 5 | | USGS |
| Aug 19 1120 | 369 | 79 | 8.0 | 98 | 138 | 7.6 | 14 / 0.699 | 5.6 / 0.461 | 5.1 / 0.222 | 1.4 / 0.036 | 0 / 0.000 | 75 / 1.229 | | 3.5 / 0.099 | | | 0.00 | | | | 16 | 58 | 0 | 45 | | USGS |
| Sep 16 1340 | 972 | 69 | 9.3 | 102 | 151 | 7.4 | 15 / 0.749 | 6.0 / 0.491 | 6.7 / 0.291 | 1.5 / 0.038 | 0 / 0.000 | 86 / 1.409 | 4.0 / 0.083 | 3.0 / 0.085 | 0.2 / 0.003 | 0.1 / 0.005 | 0.04 | 18 | Al 0.03; Cu 0.01; (a) | 97[b] | 19 | 62 | 0 | 3 | | USGS |
| Oct 14 1345 | 1,450 | 64 | 8.8 | 92 | 152 | 7.3 | 14 / 0.699 | 6.2 / 0.509 | 6.6 / 0.287 | 1.6 / 0.041 | 0 / 0.000 | 81 / 1.328 | | 1.9 / 0.082 | | | 0.11 | | | | 19 | 60 | 0 | 6 | | USGS |
| Nov 18 1345 | 2,470 | 49 | 11.4 | 98 | 145 | 7.0 | 14 / 0.699 | 7.6 / 0.621 | 5.9 / 0.257 | 1.5 / 0.038 | 0 / 0.000 | 76 / 1.246 | | 2.7 / 0.076 | | | 0.03 | | | | 16 | 66 | 4 | 20 | | USGS |
| Dec 16 1110 | 3,710 | 47 | 11.6 | 98 | 120 | 6.8 | 12 / 0.599 | 4.9 / 0.401 | 4.6 / 0.200 | 1.1 / 0.028 | 0 / 0.000 | 64 / 1.049 | | 2.5 / 0.070 | | | 0.06 | | | | 16 | 50 | 0 | 10 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 minimum .23 maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) ppm / equivalents per million | Magnesium (Mg) ppm / equivalents per million | Sodium (Na) ppm / equivalents per million | Potassium (K) ppm / equivalents per million | Carbonate ($CO_3$) ppm / equivalents per million | Bicarbonate ($HCO_3$) ppm / equivalents per million | Sulfate ($SO_4$) ppm / equivalents per million | Chloride (Cl) ppm / equivalents per million | Nitrate ($NO_3$) ppm / equivalents per million | Fluoride (F) ppm / equivalents per million | Boron (B) ppm / equivalents per million | Silica ($SiO_2$) ppm | Other constituents ppm / equivalents per million | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Feather River at Nicolaus** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 6 1030 | 21,600 | 43 | 11.8 | 95 | 87.1 | 7.1 | 10 / 0.499 | 2.5 / 0.209 | 3.3 / 0.144 | 0.7 / 0.018 | 0 / 0.000 | 46 / 0.754 | | 0.4 / 0.011 | | | 0.05 | | | | 17 | 35 | 0 | 100 | | USGS |
| Mar 12 0950 | 17,300 MD | 46 | 12.1 | 101 | 93.8 | 7.3 | 9.4 / 0.469 | 3.5 / 0.291 | 3.6 / 0.157 | 0.7 / 0.018 | 0 / 0.000 | 51 / 0.836 | | 0.8 / 0.023 | | | 0.05 | | | | 17 | 38 | 0 | 25 | | USGS |
| Apr 9 1010 | 16,900 MD | 56 | 12.0 | 114 | 78.2 | 7.2 | 8.8 / 0.439 | 2.4 / 0.201 | 3.1 / 0.135 | 0.9 / 0.023 | 0 / 0.000 | 48 / 0.787 | | 0.0 / 0.000 | | | 0.00 | | | | 17 | 32 | 0 | 15 | | USGS |
| May 7 0930 | 28,200 MD | 53 | 10.8 | 99 | 61.1 | 7.2 | 6.4 / 0.319 | 2.4 / 0.201 | 2.4 / 0.104 | 0.7 / 0.018 | 0 / 0.000 | 37 / 0.606 | 0.0 / 0.000 | 1.0 / 0.028 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 14 | Fe 0.09; Al 0.09; Cr+6 0.01; Cu 0.01; $PO_4$ 0.00; (a) | 45[b] | 16 | 26 | 0 | 80 | | USGS |
| June 11 1010 | 12,500 MD | 65 | 9.3 | 98 | 66.6 | 7.3 | 7.6 / 0.379 | 2.2 / 0.183 | 2.3 / 0.100 | 0.8 / 0.020 | 0 / 0.000 | 40 / 0.656 | | 1.0 / 0.028 | | | 0.00 | | | | 15 | 28 | 0 | 20 | | USGS |
| July 16 0900 | 1,570 MD | 76 | 8.0 | 95 | 132 | 7.5 | 13 / 0.649 | 6.2 / 0.511 | 5.2 / 0.226 | 1.3 / 0.033 | 0 / 0.000 | 77 / 1.262 | | 2.6 / 0.073 | | | 0.03 | | | | 16 | 53 | 0 | 20 | | USGS |
| Aug 13 0830 | 1,420 MD | 73 | 8.8 | 101 | 129 | 7.5 | 14 / 0.699 | 4.9 / 0.401 | 5.1 / 0.222 | 1.5 / 0.038 | -0 / 0.000 | 74 / 1.213 | | 1.0 / 0.028 | | | 0.00 | | | | 16 | 55 | 0 | 9 | | USGS |
| Sept 17 0900 | 2,540 MD | 70 | 9.2 | 102 | 115 | 6.9 | 11 / 0.549 | 5.7 / 0.471 | 4.6 / 0.200 | 1.2 / 0.031 | 0 / 0.000 | 69 / 1.131 | 4.8 / 0.100 | 0.5 / 0.014 | 0.1 / 0.002 | 0.1 / 0.005 | 0.05 | 15 | Cu 0.05; Zn 0.07; $PO_4$ 0.15; (a) | 77[b] | 16 | 51 | 0 | 2 | | USGS |
| Oct 15 0950 | 3,070 MD | 62 | 9.6 | 98 | 121 | 7.5 | 12 / 0.599 | 5.1 / 0.421 | 4.9 / 0.213 | 1.1 / 0.028 | 0 / 0.000 | 71 / 1.164 | | 1.7 / 0.048 | | | 0.00 | | | | 17 | 51 | 0 | 5 | | USGS |
| Nov 21 0900 | 3,490 | 46 | 12.0 | 100 | 113 | 6.8 | 11 / 0.549 | 4.7 / 0.387 | 4.3 / 0.187 | 1.1 / 0.028 | 0 / 0.000 | 68 / 1.115 | | 1.0 / 0.028 | | | 0.01 | | | | 16 | 47 | 0 | 1.0 | | USGS |
| Dec 10 0930 | 2,520 | 51 | 12.9 | 115 | 124 | 7.3 | 12 / 0.60 | 6.1 / 0.50 | 4.8 / 0.21 | 1.3 / 0.03 | 0 / 0.00 | 73 / 1.20 | | 2.0 / 0.06 | | | 0.08 | | | | 16 | 55 | 0 | 2 | median 62 minimum 6.2 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Feather River near Oroville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1430 | 1,980 | 41 | 13.4 | 104 | 100 | 7.4 | 11 / 0.549 | 3.4 / 0.281 | 3.8 / 0.165 | 0.7 / 0.018 | 0 / 0.000 | 56 / 0.918 | | 2.0 / 0.056 | | | 0.15 | | | | 16 | 42 | 0 | 0.9 | | USGS |
| Feb 8 0940 | 1,480 | 40 | 12.1 | 93 | 114 | 6.8 | 12 / 0.599 | 4.4 / 0.361 | 4.9 / 0.213 | 0.9 / 0.023 | 0 / 0.000 | 64 / 1.049 | | 1.8 / 0.051 | | | 0.00 | | | | 18 | 48 | 0 | 0.7 | | USGS |
| Mar 7 1515 | 2,360 | 43 | 12.3 | 99 | 112 | 7.8 | 13 / 0.649 | 4.0 / 0.331 | 5.3 / 0.230 | 1.1 / 0.028 | 0 / 0.000 | 62 / 1.016 | | 2.0 / 0.056 | | | 0.00 | | | | 19 | 49 | 0 | 3 | | USGS |
| Apr 4 1530 | 4,100 | 46 | 11.6 | [illegible] | 87.9 | 7.6 | 6.1 / 0.304 | 5.0 / 0.412 | 2.8 / 0.165 | 0.7 / 0.018 | 0 / 0.000 | 51 / 0.836 | | 0.6 / 0.017 | | | 0.16 | | | | 18 | 36 | 0 | 4 | | USGS |
| May 12 1300 | [illegible] | 55 | 10.4 | 97 | 59.1 | 7.4 | 6.8 / 0.339 | 2.2 / 0.181 | 2.3 / 0.100 | 0.5 / 0.013 | 0 / 0.000 | 36 / 0.590 | 1.7 / 0.035 | 0.5 / 0.014 | 0.5 / 0.008 | 0.0 / 0.000 | 0.12 | 14 | Al 0.06; (a) $PO_4$ 0.05 | 47[b] | 16 | 26 | 0 | 5 | | USGS |
| Jun 16 1250 | [illegible] | 64 | 10.1 | 105 | 101 | 7.4 | 9.7 / 0.484 | 3.9 / 0.322 | 4.2 / 0.183 | 0.9 / 0.023 | 0 / 0.000 | 58 / 0.951 | | 1.3 / 0.037 | | | 0.00 | | | | 18 | 40 | 0 | 1 | | USGS |
| Jul 14 1120 | [illegible] | 69 | 9.6 | 106 | 112 | 7.4 | 12 / 0.599 | 4.1 / 0.341 | 4.6 / 0.200 | 1.2 / 0.031 | 0 / 0.000 | 67 / 1.098 | | 1.0 / 0.028 | | | 0.01 | | | | 17 | 47 | 0 | 0.8 | | USGS |
| Aug 18 1140 | 1,830 | 68 | 9.2 | 100 | 115 | 7.6 | 11 / 0.549 | 6.2 / 0.511 | 5.0 / 0.217 | 1.4 / 0.036 | 0 / 0.000 | 69 / 1.131 | | 1.8 / 0.051 | | | 0.15 | | | | 17 | 53 | 0 | 10 | | USGS |
| Sep 15 1140 | 1,830 | [illegible] | 9.4 | [illegible] | 149 | 7.4 | 14 / [illegible] | 4.4 / 0.361 | 5.1 / [illegible] | 1.4 / 0.036 | 0 / 0.000 | 74 / 1.213 | 5.2 / 0.108 | 0.7 / [illegible] | 0.5 / 0.008 | 0.2 / 0.011 | 0.00 | 21 | Al 0.09; Cu 0.01; Zn 0.02 (a) | 89[b] | 17 | 53 | 0 | 1 | | USGS |
| Oct 13 1200 | 1,620 | 58 | 10.4 | 101 | 142 | 7.2 | 11 / 0.549 | 5.7 / 0.471 | 5.6 / 0.244 | 1.4 / 0.036 | 0 / 0.000 | 72 / 1.180 | | 0.9 / 0.025 | | | 0.05 | | | | 19 | 51 | 0 | 2 | | USGS |
| Nov 17 1015 | 2,020 | 45 | [illegible] | 102 | 124 | 7.4 | 11 / 0.549 | [illegible] / 0.483 | 5.6 / 0.244 | 1.4 / 0.036 | 0 / 0.000 | 71 / 1.164 | | 0.8 / 0.023 | | | 0.05 | | | | 19 | 52 | 0 | 5 | | USGS |
| Dec 15 1000 | 2,920 | 43 | [illegible] | 101 | [illegible] | 6.3 | 14 / 0.599 | 4.4 / 0.361 | 4.6 / 0.200 | 1.1 / 0.028 | 0 / 0.000 | 65 / 1.065 | | 1.5 / 0.042 | | | 0.04 | | | | 17 | 43 | 0 | 2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 minimum .045 maximum 1300 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Feather River near Oroville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1430 | 45,100 | 45 | 12.9 | 107 | 57.6 | 6.8 | 6.1 / 0.304 | 1.8 / 0.152 | 2.3 / 0.100 | 0.6 / 0.015 | 0 / 0.000 | 32 / 0.524 | | 0.0 / 0.000 | | | 0.03 | | | | 18 | 23 | 0 | 100 | | USGS |
| Feb 6 1630 | 9,820 | 41 | 13.0 | 102 | 81.4 | 6.8 | 10 / 0.499 | 1.7 / 0.139 | 3.7 / 0.161 | 0.8 / 0.020 | 0 / 0.000 | 46 / 0.754 | | 0.0 / 0.000 | | | 0.02 | | | | 20 | 32 | 0 | 6 | | USGS |
| Mar 12 1530 | 11,700 | 42 | 13.1 | 104 | 94.9 | 7.3 | 10 / 0.499 | 3.0 / 0.243 | 4.1 / 0.178 | 1.1 / 0.028 | 0 / 0.000 | 55 / 0.901 | | 0.3 / 0.008 | | | 0.01 | | | | 19 | 37 | 0 | 7 | | USGS |
| Apr 9 1550 | 12,900 | 51 | 11.5 | 103 | 70.8 | 6.8 | 9.4 / 0.469 | 1.5 / 0.125 | 3.1 / 0.135 | 0.8 / 0.020 | 0 / 0.000 | 45 / 0.738 | | 0.0 / 0.000 | | | 0.00 | | | | 18 | 30 | 0 | 15 | | USGS |
| May 7 1440 | 17,500 | [illegible] | 11.4 | 102 | 72.3 | 6.9 | 8.0 / 0.399 | 2.7 / 0.221 | 2.6 / 0.113 | 0.6 / 0.015 | 0 / 0.000 | 39 / 0.639 | 3.0 / 0.062 | 1.0 / 0.028 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 15 | Fe 0.05; Al 0.14; $PO_4$ 0.55; (a) | 52[b] | 15 | 31 | 0 | 20 | | USGS |
| June 11 1625 | 7,240 | 61 | 10.0 | 101 | 67.6 | 7.3 | 7.6 / 0.379 | 2.3 / 0.191 | 2.6 / 0.113 | 0.9 / 0.023 | 0 / 0.000 | 41 / 0.672 | | 0.6 / 0.017 | | | 0.02 | | | | 16 | 28 | 0 | 2 | | USGS |
| July 16 1500 | 2,970 | 69 | 9.5 | 103 | 97.6 | 7.7 | 10 / 0.499 | 4.0 / 0.333 | 4.2 / 0.183 | 1.1 / 0.028 | 0 / 0.000 | 62 / 1.016 | | 0.8 / 0.023 | | | 0.00 | | | | 18 | 42 | 0 | 1 | | USGS |
| Aug 13 1420 | 2,850 | 67 | 9.7 | 105 | 101 | 7.7 | 11 / 0.549 | 3.8 / 0.311 | 4.0 / 0.174 | 1.3 / 0.033 | 0 / 0.000 | 62 / 1.016 | | 0.1 / 0.003 | | | 0.07 | | | | 16 | 43 | 0 | 2 | | USGS |
| Sept 17 1410 | 2,710 | 65 | 10.0 | 106 | 116 | 7.1 | 12 / 0.599 | 5.4 / 0.441 | 4.8 / 0.209 | 1.2 / 0.031 | 0 / 0.000 | 72 / 1.180 | 2.0 / 0.000 | 1.0 / 0.028 | 0.1 / 0.002 | 0.1 / 0.005 | 0.04 | 21 | Al 0.03; Cu 0.02; Zn 0.05; $PO_4$ 0.05; (a) | 84[b] | 16 | 52 | 0 | 1 | | USGS |
| Oct 15 1510 | 2,930 | 58 | 10.7 | 104 | 116 | 7.9 | 11 / 0.549 | 5.0 / 0.411 | 5.0 / 0.218 | 1.3 / 0.033 | 0 / 0.000 | 72 / 1.180 | | 0.7 / 0.020 | | | 0.02 | | | | 18 | 48 | 0 | 1 | | USGS |
| Nov 20 1050 | 3,280 | 44 | 13.1 | 107 | 109 | 6.9 | 10 / 0.499 | 5.0 / 0.413 | 4.6 / 0.200 | 1.2 / 0.031 | 0 / 0.000 | 68 / 1.115 | | 0.2 / 0.006 | | | 0.02 | | | | 17 | 46 | 0 | 0.9 | | USGS |
| Dec 10 1445 | 2,770 | 37 | 14.0 | 103 | 118 | 7.5 | 12 / 0.60 | 5.8 / 0.48 | 4.8 / 0.21 | 1.3 / 0.03 | 0 / 0.00 | 69 / 1.13 | | 6.0 / 0.17 | | | 0.09 | | | | 16 | 54 | 0 | 2 | median 6.2 minimum .62 maximum 62 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Honcut Creek-South near Rangor | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1530 | 19 | 45 | 12.6 | 103 | 123 | 7.4 | 10 / 0.499 | 5.1 / 0.421 | 7.0 / 0.304 | 0.5 / 0.013 | 0 / 0.000 | 60 / 0.983 | | 4.8 / 0.135 | | | 0.15 | | | | 25 | 46 | 0 | 2 | | USGS |
| Feb 8 1045 | 13 | 42 | 12.0 | 95 | 121 | 7.4 | 11 / 0.549 | 4.3 / 0.351 | 7.7 / 0.335 | 0.4 / 0.010 | 0 / 0.000 | 61 / 1.000 | | 3.8 / 0.107 | | | 0.01 | | | | 27 | 45 | 0 | 0.6 | | USGS |
| Mar 8 0745 | 16 | 44 | 11.0 | 90 | 120 | 7.3 | 11 / 0.549 | 4.3 / 0.351 | 7.6 / 0.330 | 0.4 / 0.010 | 0 / 0.000 | 63 / 1.032 | | 4.0 / 0.113 | | | 0.00 | | | | 27 | 45 | 0 | 2 | | USGS |
| Apr 5 0730 | .6.4 | 48 | 11.7 | 100 | 153 | 7.4 | 9.5 / 0.474 | 7.9 / 0.646 | 11 / 0.478 | 0.3 / 0.08 | 0 / 0.000 | 77 / 1.262 | | 4.8 / 0.135 | | | 0.02 | | | | 30 | 56 | 0 | 1 | | USGS |
| May 12 1430 | .8.7 | 73 | 8.1 | 93 | 147 | 7.6 | 12 / 0.599 | 5.8 / 0.481 | 9.8 / 0.426 | 0.5 / 0.013 | 0 / 0.000 | 78 / 1.278 | 7.9 / 0.164 | 4.5 / 0.127 | 0.1 / 0.002 | 0.1 / 0.005 | 0.03 | 27 | Fe 0.02; (a) $PO_4$ 0.00 | 106[b] | 28 | 54 | 0 | 0.9 | | USGS |
| Jun 16 1400 | 1.3 | 77 | 8.5 | 101 | 206 | 7.7 | 18 / 0.898 | 6.0 / 0.490 | 17 / 0.739 | 0.4 / 0.010 | 0 / 0.000 | 99 / 1.622 | | 5.9 / 0.166 | | | 0.07 | | | | 35 | 69 | 0 | 0.3 | | USGS |
| Jul 14 1240 | 0.1 | 84 | 9.0 | 116 | 321 | 7.4 | 23 / 1.148 | 11 / 0.872 | 29 / 1.261 | 0.4 / 0.010 | 0 / 0.000 | 134 / 2.196 | | 19 / 0.536 | | | 0.14 | | | | 38 | 101 | 0 | 0.8 | | USGS |
| Aug | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 17 1340 | 5.9 | 47 | 11.5 | 97 | 273 | 6.8 | 18 / 0.898 | 9.2 / 0.758 | 23 / 1.000 | 0.5 / 0.013 | 0 / 0.000 | 68 / 1.115 | | 15 / 0.423 | | | 0.38 | | | | 37 | 83 | 27 | 2 | | USGS |
| Dec 15 1345 | 6.8 | 49 | 12.5 | 109 | 151 | 6.8 | 11 / 0.549 | 6.1 / 0.497 | 11 / 0.478 | 0.4 / 0.010 | 0 / 0.000 | 63 / 1.033 | | 6.3 / 0.178 | | | 0.03 | | | | 31 | 52 | 0 | 2 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 5

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Honcut Creek-South near Bangor | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1315 | 386 | 52 | 11.5 | 104 | 64.7 | 6.8 | 6.0 / 0.299 | 2.7 / 0.225 | 3.4 / 0.148 | 0.3 / 0.008 | 0 / 0.000 | 35 / 0.574 | | 0.8 / 0.023 | | | 0.04 | | | | 22 | 26 | 0 | 20 | | USGS |
| Feb 6 1500 | 46 | 50 | 11.2 | 99 | 98.9 | 7.3 | 8.5 / 0.424 | 3.6 / 0.298 | 5.9 / 0.257 | 0.2 / 0.005 | 0 / 0.000 | 52 / 0.852 | | 2.3 / 0.065 | | | 0.00 | | | | 26 | 36 | 0 | 4 | | USGS |
| Mar 12 1420 | 37 | 53 | 10.0 | 92 | 103 | 7.0 | 8.4 / 0.419 | 4.4 / 0.361 | 6.2 / 0.270 | 0.2 / 0.005 | 0 / 0.000 | 56 / 0.918 | | 3.5 / 0.099 | | | 0.06 | | | | 26 | 39 | 0 | 15 | | USGS |
| Apr 9 1450 | 10 | 68 | 9.6 | 106 | 132 | 6.8 | 11 / 0.549 | 4.5 / 0.371 | 9.9 / 0.431 | 0.5 / 0.013 | 0 / 0.000 | 72 / 1.180 | | 3.5 / 0.099 | | | 0.09 | | | | 32 | 46 | 0 | 0.6 | | USGS |
| May 7 1345 | 32 | 60 | 10.0 | 100 | 117 | 7.0 | 10 / 0.499 | 5.5 / 0.453 | 7.1 / 0.309 | 0.4 / 0.010 | 0 / 0.000 | 68 / 1.115 | 5.0 / 0.104 | 2.0 / 0.056 | 0.0 / 0.000 | 0.0 / 0.000 | 0.00 | 27 | Fe 0.04; Al 0.04; Cu 0.01; Zn 0.01; (a) $PO_4$ 0.00 | 90[b] | 24 | 48 | 0 | 3 | | USGS |
| June 11 1530 | 3.0 | 80 | 7.8 | 96 | 169 | 7.5 | 14 / 0.699 | 7.6 / 0.621 | 13 / 0.566 | 0.3 / 0.008 | 0 / 0.000 | 87 / 1.426 | | 6.5 / 0.183 | | | 0.00 | | | | 30 | 66 | 0 | 2 | | USGS |
| July 16 1400 | 0.3 | 85 | 8.3 | 108 | 244 | 7.5 | 17 / 0.848 | 9.6 / 0.788 | 22 / 0.957 | 0.5 / 0.013 | 0 / 0.000 | 111 / 1.819 | | 1.3 / 0.037 | | | 0.17 | | | | 37 | 82 | 0 | 0.8 | | USGS |
| Aug 13 1330 | 0.1 | 70 | 8.9 | 108 | 170 | 7.7 | 13 / 0.649 | 6.0 / 0.491 | 14 / 0.609 | 0.6 / 0.015 | 0 / 0.000 | 89 / 1.459 | | 6.3 / 0.178 | | | 0.00 | | | | 35 | 57 | 0 | 0.4 | | USGS |
| Sept 17 1310 | 0 | 74 | 9.1 | 105 | 343 | 7.4 | 26 / 1.297 | 14 / 1.183 | 29 / 1.262 | 0.8 / 0.020 | 0 / 0.000 | 173 / 2.835 | 17 / 0.354 | 17 / 0.479 | 0.9 / 0.015 | 0.3 / 0.016 | 0.10 | 37 | Al 0.11; $PO_4$ 0.00; (a) | 227[b] | 34 | 124 | 0 | 1.0 | | USGS |
| Oct 15 1420 | 0.1 | 66 | 9.8 | 104 | 238 | 7.5 | 14 / 0.699 | 6.1 / 0.501 | 26 / 1.131 | 0.3 / 0.008 | 0 / 0.000 | 77 / 1.262 | | 15 / 0.423 | | | 0.14 | | | | 48 | 60 | 0 | 0.3 | | USGS |
| Nov 20 1200 | 2.8 | 46 | 13.3 | 111 | 201 | 6.9 | 15 / 0.75 | 6.6 / 0.54 | 16 / 0.70 | 0.5 / 0.01 | 0 / 0.00 | 83 / 1.36 | | 9.5 / 0.27 | | | 0.07 | | | | 35 | 64 | 0 | 0.3 | | USGS |
| Dec 10 1355 | 3.7 | 43 | 12.5 | 101 | 165 | 7.3 | 12 / 0.60 | 6.1 / 0.50 | 13 / 0.57 | 0.4 / 0.01 | 0 / 0.00 | 74 / 1.21 | | 7.2 / 0.20 | | | 0.00 | | | | 34 | 55 | 0 | 0.4 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Indian Creek near Crescent Mills | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 1050 | 1,110 | 51 | 9.4 | 84 | 81.3 | 7.2 | 9.3 / 0.464 | 2.1 / 0.176 | 3.8 / 0.165 | 1.1 / 0.028 | 0 / 0.000 | 48 / 0.787 | 2.2 / 0.046 | 0.5 / 0.014 | 0.4 / 0.006 | 0.2 / 0.011 | 0.03 | 21 | Fe 0.5; Al 0.7; (a) $PO_4$ 0.15 | 65[b] | 20 | 32 | 0 | 40 | | USGS |
| Jun 14 1215 | 214 | 67 | 7.5 | 81 | 131 | 7.2 | 16 / 0.798 | 3.7 / 0.302 | 5.8 / 0.252 | 1.6 / 0.041 | 0 / 0.000 | 79 / 1.295 | | 0.00 / 0.000 | | | 0.00 | | | | 18 | 55 | 0 | 15 | | USGS |
| Jul 12 1400 | 20 | 73 | 7.7 | 89 | 239 | 6.8 | 26 / 1.297 | 8.5 / 0.703 | 13 / 0.565 | 2.1 / 0.054 | 0 / 0.000 | 140 / 2.294 | | 4.2 / 0.118 | | | 0.06 | | | | 22 | 100 | 0 | 10 | | USGS |
| Aug 16 1245 | 4.4 | 67 | 7.0 | 76 | 291 | 6.8 | 33 / 1.647 | 8.4 / 0.693 | 17 / 0.739 | 1.8 / 0.046 | 0 / 0.000 | 174 / 2.852 | | 6.8 / 0.192 | | | 0.20 | | | | 24 | 117 | 0 | 75 | | USGS |
| Sep 13 1215 | 3.0 | 62 | 7.5 | 76 | 363 | 6.8 | 36 / 1.796 | 12 / 0.984 | 21 / 0.913 | 1.6 / 0.041 | 0 / 0.000 | 201 / 3.294 | 10 / 0.208 | 12 / 0.339 | 0.3 / 0.005 | 0.0 / 0.000 | 0.14 | 29 | Fe 0.01; Al 0.03; Cu 0.01; (a) | 221[b] | 24 | 139 | 0 | 5 | | USGS |
| Oct 11 1245 | 18 | 50 | 9.5 | 84 | 236 | 6.8 | 25 / 1.248 | 8.9 / 0.736 | 12 / 0.522 | 1.4 / 0.036 | 0 / 0.000 | 133 / 2.180 | | 4.9 / 0.138 | | | 0.10 | | | | 21 | 99 | 0 | 15 | | USGS |
| Nov 1[illegible] 1245 | 49 | 40 | 10.0 | 77 | 189 | 6.8 | 19 / 0.948 | 6.7 / 0.548 | 9.8 / 0.426 | 1.3 / 0.033 | 0 / 0.000 | 104 / 1.705 | | 2.6 / 0.073 | | | 0.09 | | | | 22 | 75 | 0 | 20 | | USGS |
| Dec | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 14.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Indian Creek near Crescent Mills | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 1010 | 2,700 | 46 | 9.9 | 82 | 71.0 | 6.8 | 8.0 / 0.399 | 2.2 / 0.181 | 3.5 / 0.152 | 0.3 / 0.020 | 0 / 0.000 | 43 / 0.705 | 1.0 / 0.021 | 1.0 / 0.023 | 0.1 / 0.002 | 0.2 / 0.011 | 0.00 | 23 | Fe 0.12; Al 0.03; Cr+6 0.01; Cu 0.01; Zn 0.01; $PO_4$ 0.00; (a) | 61[b] | 20 | 29 | 0 | 30 | | USGS |
| June 14 1030 | 610 | 54 | 8.7 | 81 | 89.8 | 7.1 | 9.9 / 0.494 | 2.8 / 0.230 | 4.1 / 0.178 | 1.4 / 0.036 | 0 / 0.000 | 55 / 0.901 | | 0.7 / 0.020 | | | 0.02 | | | | 19 | 36 | 0 | 10 | | USGS |
| July 19 0830 | 86 | 68 | 7.2 | 79 | 168 | 7.0 | 18 / 0.898 | 5.6 / 0.462 | 9.4 / 0.409 | 1.8 / 0.046 | 0 / 0.000 | 102 / 1.672 | | 1.8 / 0.051 | | | 0.06 | | | | 23 | 68 | 0 | 4 | | USGS |
| Aug 16 0900 | 33 | 60 | 7.9 | 79 | 213 | 6.9 | 23 / 1.148 | 7.9 / 0.652 | 11 / 0.478 | 2.5 / 0.064 | 0 / 0.000 | 123 / 2.016 | | 2.0 / 0.056 | | | 0.00 | | | | 20 | 90 | 0 | 5 | | USGS |
| Sept 20 0850 | 91 | 56 | 8.6 | 82 | 170 | 6.8 | 17 / 0.848 | 7.0 / 0.572 | 9.2 / 0.400 | 2.4 / 0.061 | 0 / 0.000 | 96 / 1.573 | 9.6 / 0.200 | 3.5 / 0.099 | 0.2 / 0.003 | 0.2 / 0.011 | 0.13 | 25 | Fe 0.05; Cu 0.03; Zn 0.10; $PO_4$ 0.10; (a) | 121[b] | 21 | 71 | 0 | 20 | | USGS |
| Oct 18 0935 | 87 | 48 | 9.6 | 83 | 169 | 7.0 | 18 / 0.898 | 5.5 / 0.454 | 9.0 / 0.392 | 1.4 / 0.036 | 0 / 0.000 | 100 / 1.639 | | 2.6 / 0.073 | | | 0.00 | | | | 22 | 68 | 0 | 1.0 | | USGS |
| Nov | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | median 23 minimum .62 maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Indian Slough near Brentwood | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 1415 | | 48 | 9.5 | 81 | 1180 | 7.9 | 69 / 3.44 | 34 / 2.82 | 131 / 5.70 | 3.6 / 0.09 | 0 / 0.00 | 259 / 4.24 | | 176 / 4.96 | | | 1.7 | | | | 47 | 313 | 101 | 45 | | USGS |
| Feb 16 1440 | | 53 | 16.1 | 149 | 1430 | 8.1 | 61 / 3.04 | 41 / 3.40 | 176 / 7.65 | 4.2 / 0.11 | 0 / 0.00 | 196 / 3.21 | – | 237 / 6.68 | | | 1.6 | | | | 54 | 322 | 161 | 8 | | USGS |
| Mar 16 1130 | | 53 | 10.5 | 98 | 1110 | 8.0 | 9.7 / 0.48 | 72 / 5.94 | 114 / 4.96 | 2.6 / 0.07 | 0 / 0.00 | 292 / 4.79 | | 150 / 4.23 | | | 1.5 | | | | 43 | 321 | 82 | 3 | | USGS |
| Apr 20 1045 | | 58 | 7.5 | 73 | 396 | 7.3 | 22 / 1.098 | 12 / 0.982 | 39 / 1.696 | 2.0 / 0.051 | 0 / 0.000 | 92 / 1.508 | | 52 / 1.467 | | | 0.24 | | | | 44 | 104 | 29 | 40 | | USGS |
| May 18 1515 | | 78 | 8.3 | 100 | 398 | 7.9 | 21 / 1.048 | 13 / 1.072 | 39 / 1.696 | 2.3 / 0.059 | 0 / 0.000 | 101 / 1.655 | 33 / 0.791 | 50 / 1.410 | 0.9 / 0.015 | 0.3 / 0.016 | 0.27 | 16 | Fe 0.01; Al 0.1; (a) $PO_4$ 0.15 | 231[b] | 44 | 106 | 23 | 40 | | USGS |
| Jun 21 1320 | | 77 | 7.5 | 89 | 240 | 7.4 | 13 / 0.649 | 8.9 / 0.731 | 20 / 0.870 | 1.4 / 0.036 | 0 / 0.000 | 77 / 1.262 | | 24 / 0.677 | | | 0.11 | | | | 38 | 69 | 6 | 20 | | USGS |
| Jul 19 1000 | | 77 | 6.9 | 82 | 309 | 7.0 | 6.4 / 0.319 | 16 / 1.281 | 30 / 1.305 | 2.5 / 0.064 | 0 / 0.000 | 81 / 1.327 | | 36 / 1.015 | | | 0.26 | | | | 44 | 80 | 14 | 70 | | USGS |
| Aug 23 1210 | | 80 | 7.2 | 89 | 708 | 7.3 | 23 / 1.15 | 17 / 1.41 | 86 / 3.74 | 3.8 / 0.10 | 0 / 0.00 | 104 / 1.70 | | 140 / 3.95 | | | 0.36 | | | | 58 | 128 | 43 | 35 | | USGS |
| Sep 22 1010 | | 67 | 7.4 | 80 | 783 | 7.3 | 27 / 1.35 | 21 / 1.71 | 91 / 3.96 | 4.0 / 0.10 | 0 / 0.00 | 124 / 2.03 | 54 / 1.12 | 146 / 4.12 | 3.7 / 0.06 | 0.4 / 0.02 | 0.51 | 18 | Fe 0.14; Al 0.04; Cu 0.02; Zn 0.01; (a) | 427[b] | 56 | 153 | 51 | 40 | | USGS |
| Oct 19 1410 | | 62 | 7.6 | 77 | 755 | 7.3 | 29 / 1.45 | 21 / 1.74 | 92 / 4.00 | 3.0 / 0.08 | 0 / 0.00 | 148 / 2.43 | | 126 / 3.55 | | | 0.75 | | | | 55 | 160 | 39 | 20 | | USGS |
| Nov 23 0940 | | 49 | 9.7 | 85 | 1140 | 7.5 | 71 / 3.54 | 36 / 2.96 | 120 / 5.22 | 2.4 / 0.06 | 0 / 0.00 | 312 / 5.11 | | 148 / 4.17 | | | 2.0 | | | | 44 | 325 | 69 | 120 | | USGS |
| Dec 21 1040 | | 57 | 9.0 | 86 | 1110 | 7.5 | 75 / 3.74 | 36 / 2.98 | 111 / 4.83 | 2.8 / 0.07 | 0 / 0.00 | 309 / 5.06 | | 143 / 4.03 | | | 1.8 | | | | 42 | 336 | 83 | 30 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| Not Rated in 1955 | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Indian Slough near Brentwood | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1030 | | 53 | 9.9 | 91 | 1,110 | 7.5 | 71 / 3.54 | 35 / 2.87 | 117 / 5.09 | 2.6 / 0.07 | 0 / 0.00 | 294 / 4.82 | | 74 / 2.09 | | | 1.8 | | | | 44 | 320 | 79 | 25 | | USGS |
| Feb 16 1120 | | 46 | 9.0 | 75 | 2,220 | 7.7 | 102 / 5.09 | 77 / 6.31 | 264 / 11.48 | 2.0 / 0.05 | 5 / 0.17 | 350 / 5.74 | | 390 / 11.00 | | | 4.1 | | | | 50 | 570 | 275 | 50 | | USGS |
| Mar 21 1045 | | 58 | 10.2 | 99 | 1,220 | 7.7 | 70 / 3.49 | 39 / 3.21 | 136 / 5.92 | 2.0 / 0.05 | 0 / 0.00 | 320 / 5.24 | | 160 / 4.51 | | | 2.2 | | | | 47 | 335 | 73 | 5 | | USGS |
| Apr 18 0830 | | 58 | 8.6 | 84 | 728 | 7.3 | 33 / 1.65 | 21 / 1.70 | 82 / 3.57 | 2.7 / 0.07 | 0 / 0.00 | 125 / 2.05 | | 121 / 3.41 | | | 0.73 | | | | 51 | 167 | 65 | 25 | | USGS |
| May 16 0730 | | 63 | 8.4 | 87 | 189 | 7.1 | 11 / 0.549 | 4.9 / 0.403 | 18 / 0.783 | 1.4 / 0.036 | 0 / 0.000 | 49 / 0.803 | 15 / 0.312 | 22 / 0.620 | 0.8 / 0.013 | 0.3 / 0.016 | 0.25 | 14 | Fe 0.16; Al 0.07; Zn 0.01; $PO_4$ 0.20; (a) | 112[b] | 44 | 48 | 8 | 45 | | USGS |
| June 20 1345 | | 72 | 6.6 | 76 | 249 | 7.3 | 13 / 0.649 | 6.9 / 0.571 | 27 / 1.174 | 1.9 / 0.049 | 0 / 0.000 | 64 / 1.049 | | 33 / 0.931 | | | 0.22 | | | | 48 | 61 | 9 | 40 | | USGS |
| July 24 1040 | | 83 | 6.5 | 82 | 251 | 6.8 | 14 / 0.699 | 6.5 / 0.533 | 26 / 1.131 | 1.8 / 0.046 | 0 / 0.000 | 65 / 1.065 | | 32 / 0.902 | | | 0.24 | | | | 47 | 62 | 9 | 30 | | USGS |
| Aug 22 0800 | | 72 | 6.7 | 76 | 359 | 7.3 | 20 / 0.998 | 9.7 / 0.794 | 37 / 1.610 | 1.9 / 0.049 | 0 / 0.000 | 92 / 1.508 | | 45 / 1.269 | | | 0.36 | | | | 47 | 90 | 15 | 25 | | USGS |
| Sept 13 1030 | | 72 | 7.7 | 88 | 430 | 6.8 | 21 / 1.048 | 11 / 0.932 | 50 / 2.175 | 1.8 / 0.046 | 0 / 0.000 | 98 / 1.606 | 34 / 0.708 | 62 / 1.748 | 0.9 / 0.015 | 0.3 / 0.016 | 0.49 | 11 | Fe 0.07; Al 0.13; Cu 0.01; $PO_4$ 0.15 | 241[b] | 52 | 99 | 19 | 15 | | USGS |
| Oct 16 1140 | | 65 | 13.2 | 139 | 853 | 7.7 | 38 / 1.90 | 22 / 1.80 | 99 / 4.31 | 2.4 / 0.06 | 0 / 0.00 | 170 / 2.79 | | 136 / 3.84 | | | 1.1 | | | | 53 | 185 | 46 | 6 | | USGS |
| Nov 20 1250 | | 50 | 10.9 | 96 | 1,240 | 8.1 | 78 / 3.89 | 41 / 3.41 | 130 / 5.66 | 2.4 / 0.06 | 0 / 0.00 | 330 / 5.41 | | 177 / 4.99 | | | 2.1 | | | | 43 | 365 | 94 | 10 | | USGS |
| Dec 18 1345 | | 54 | 8.3 | 77 | 1,150 | 8.1 | 65 / 3.24 | 49 / 4.06 | 123 / 5.35 | 1.8 / 0.05 | 0 / 0.00 | 295 / 4.84 | | 158 / 4.46 | | | 1.9 | | | | 42 | 365 | 123 | 35 | | USGS |
| Not Rated in 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Mineral constituents in ppm / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tidal Area | | | | | | | | | | | Italian Slough near Mouth | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 1030 | | 46 | 8.5 | 71 | 701 | 6.8 | 42 / 2.10 | 16 / 1.31 | 69 / 3.00 | 4.4 / 0.11 | 0 / 0.00 | 75 / 1.23 | | 103 / 2.90 | | | 0.44 | | | | 46 | 170 | 108 | 40 | | USGS |
| Feb 21 1545 | | 51 | 9.5 | 85 | 680 | 7.3 | 34 / 1.70 | 17 / 1.38 | 77 / 3.35 | 2.9 / 0.07 | 0 / 0.00 | 106 / 1.74 | | 104 / 2.93 | | | 0.30 | | | | 52 | 154 | 67 | 7 | | USGS |
| Mar 16 0940 | | 57 | 9.3 | 90 | 629 | 7.4 | 32 / 1.60 | 15 / 1.26 | 69 / 3.00 | 2.7 / 0.07 | 0 / 0.00 | 96 / 1.57 | | 106 / 2.99 | | | 0.37 | | | | 51 | 143 | 64 | 35 | | USGS |
| Apr 20 1000 | | 58 | 9.1 | 89 | 383 | 7.2 | 25 / 1.248 | 12 / 0.952 | 33 / 1.435 | 2.0 / 0.051 | 0 / 0.000 | 84 / 1.377 | | 46 / 1.297 | | | 0.09 | | | | 39 | 110 | 41 | 15 | | USGS |
| May 18 1400 | | 72 | 8.2 | 94 | 338 | 7.4 | 22 / 1.093 | 9.8 / 0.802 | 30 / 1.305 | 2.1 / 0.054 | 0 / 0.000 | 86 / 1.409 | 33 / 0.687 | 41 / 1.156 | 1.0 / 0.016 | 0.3 / 0.016 | 0.10 | 17 | Fe 0.2; Al 0.3; $PO_4$ 0.20 (a) | 198[b] | 40 | 95 | 24 | 30 | | USGS |
| Jun 21 1140 | | 76 | 8.1 | 95 | 253 | 7.4 | [illegible] / 0.798 | 8.0 / 0.562 | 22 / 0.957 | 1.7 / 0.043 | 0 / 0.000 | 76 / 1.246 | | 27 / 0.761 | | | 0.08 | | | | 39 | 73 | 11 | 45 | | USGS |
| Jul 19 0930 | | 73 | 7.2 | 83 | 275 | 7.3 | 14 / 0.699 | 10 / 0.821 | 25 / 1.087 | 1.8 / 0.046 | 0 / 0.000 | 78 / 1.278 | | 30 / 0.846 | | | 0.15 | | | | 41 | 76 | 12 | 9 | | USGS |
| Aug 23 1050 | | 77 | 6.6 | 79 | 556 | 7.0 | 20 / 1.00 | 14 / 1.16 | 64 / 2.78 | 3.3 / 0.08 | 0 / 0.00 | 93 / 1.52 | | 105 / 2.96 | | | 0.28 | | | | 55 | 108 | 32 | 25 | | USGS |
| Sep 22 0915 | | 68 | 6.5 | 71 | 526 | 7.3 | 22 / 1.10 | 12 / 1.01 | 60 / 2.61 | 3.2 / 0.08 | 0 / 0.00 | 98 / 1.61 | 29 / 0.60 | 96 / 2.68 | 0.6 / 0.01 | 0.4 / 0.02 | 0.01 | 19 | Fe 0.16; $Cr^{+6}$ 0.01; Cu 0.01; Zn 0.01; (a) | 289[b] | 54 | 106 | 26 | 35 | | USGS |
| Oct 17 1325 | | 62 | 6.7 | 68 | 447 | 7.3 | 20 / 0.998 | 12 / 1.070 | 48 / 2.088 | 2.7 / 0.069 | 0 / 0.000 | 112 / 1.836 | | 67 / 1.889 | | | 0.23 | | | | 49 | 104 | 12 | 20 | | USGS |
| Nov 22 1445 | | 50 | 10.1 | 89 | 965 | 7.5 | 51 / 2.54 | 22 / 1.78 | 109 / 4.74 | 4.4 / 0.11 | 0 / 0.00 | 151 / 2.47 | | 175 / 4.94 | | | 0.25 | | | | 52 | 216 | 92 | 80 | | USGS |
| Dec 21 0945 | | 53 | 8.4 | 77 | 657 | 7.1 | 36 / 1.80 | 16 / 1.30 | 75 / 3.26 | 3.5 / 0.09 | 0 / 0.00 | 91 / 1.49 | | 109 / 3.07 | | | 0.42 | | | | 51 | 155 | 80 | 35 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 1300 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Italian Slough near Mouth** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 16 1030 | | 45 | 9.8 | 81 | 389 | 7.3 | 20 / 0.998 | 10 / 0.838 | 39 / 1.696 | 2.1 / 0.054 | 0 / 0.000 | 71 / 1.164 | | 59 / 1.664 | | | 0.29 | | | | 47 | 92 | 34 | 20 | | USGS |
| Mar 21 0950 | | 56 | 9.0 | 86 | 512 | 7.1 | 29 / 1.447 | 13 / 1.033 | 51 / 2.218 | 2.5 / 0.064 | 0 / 0.000 | 93 / 1.524 | | 80 / 2.256 | | | 0.23 | | | | 47 | 124 | 48 | 20 | | USGS |
| Apr 17 1300 | | 60 | 9.3 | 93 | 347 | 7.3 | 18 / 0.898 | 9.3 / 0.762 | 36 / 1.566 | 1.8 / 0.046 | 0 / 0.000 | 66 / 1.082 | | 54 / 1.523 | | | 0.19 | | | | 48 | 83 | 29 | 15 | | USGS |
| May 15 1240 | | 63 | 8.7 | 90 | 171 | 7.1 | 12 / 0.599 | 3.5 / 0.289 | 16 / 0.696 | 1.3 / 0.033 | 0 / 0.000 | 44 / 0.721 | 14 / 0.291 | 21 / 0.592 | 0.8 / 0.013 | 0.3 / 0.016 | 0.10 | 13 | Fe 0.07; Al 0.03; Cu 0.01; Zn 0.01; $PO_4$ 0.20 (a) | 104[b] | 43 | 44 | 8 | 20 | | USGS |
| June 20 1225 | | 72 | 7.5 | 85 | 203 | 7.3 | 13 / 0.649 | 5.1 / 0.423 | 19 / 0.826 | 1.5 / .038 | 0 / 0.000 | 56 / 0.918 | | 26 / 0.733 | | | 0.27 | | | | 43 | 54 | 8 | 20 | | USGS |
| July 24 1000 | | 80 | 7.3 | 90 | 167 | 6.8 | 10 / 0.499 | 4.2 / 0.349 | 16 / 0.696 | 1.6 / 0.041 | 0 / 0.000 | 47 / 0.770 | | 21 / 0.592 | | | 0.06 | | | | 44 | 42 | 3 | 55 | | USGS |
| Aug 21 1145 | | 75 | 8.0 | 93 | 333 | 7.3 | 20 / 0.998 | 8.7 / 0.714 | 32 / 1.392 | 1.8 / 0.046 | 0 / 0.000 | 72 / 1.180 | | 47 / 1.325 | | | 0.11 | | | | 44 | 86 | 27 | 10 | | USGS |
| Sept 13 1400 | | 74 | 8.1 | 94 | 360 | 7.0 | 21 / 1.048 | 9.0 / 0.740 | 40 / 1.740 | 1.9 / 0.049 | 0 / 0.000 | 87 / 1.426 | 26 / 0.541 | 52 / 1.466 | 1.0 / 0.016 | 0.3 / 0.016 | 0.11 | 11 | Fe 0.03; Al 0.10; $PO_4$ 0.15; (a) | 205[b] | 49 | 89 | 18 | 10 | | USGS |
| Oct 26 1050 | | 66 | 9.1 | 97 | 607 | 7.0 | 34 / 1.70 | 13 / 1.11 | 64 / 2.78 | 2.9 / 0.07 | 0 / 0.00 | 122 / 2.00 | | 100 / 2.82 | | | 0.17 | | | | 49 | 141 | 41 | 15 | | USGS |
| Nov 20 1210 | | 50 | 8.8 | 78 | 665 | 7.3 | 36 / 1.80 | 16 / 1.32 | 73 / 3.18 | 3.0 / 0.08 | 0 / 0.00 | 106 / 1.74 | | 113 / 3.19 | | | 0.25 | | | | 50 | 156 | 69 | 10 | | USGS |
| Dec 18 1300 | | 51 | 8.6 | 77 | 600 | 6.9 | 35 / 1.75 | 15 / 1.23 | 60 / 2.61 | 2.4 / 0.06 | 0 / 0.00 | 77 / 1.26 | | 92 / 2.59 | | | 0.22 | | | | 46 | 149 | 86 | 15 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Kaweah River near Three Rivers** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1110 | 147 | 40 | 12.2 | 94 | 134 | 7.3 | 17 / 0.848 | 1.7 / 0.142 | 7.2 / 0.313 | 1.1 / 0.028 | 0 / 0.000 | 68 / 1.114 | | 5.8 / 0.164 | | | 0.13 | | | | 24 | 50 | 0 | | | USGS |
| Feb 10 0910 | 179 | 42 | 12.0 | 95 | 116 | 7.2 | 15 / 0.749 | 1.5 / 0.121 | 6.4 / 0.278 | 1.1 / 0.028 | 0 / 0.000 | 60 / 0.983 | | 4.0 / 0.113 | | | 0.01 | | | | 24 | 44 | 0 | 0.6 | | USGS |
| Mar 9 0900 | 383 | 51 | 10.6 | 97 | 96.4 | 7.3 | 11 / 0.549 | 1.6 / 0.131 | 5.0 / 0.217 | 1.2 / 0.031 | 0 / 0.000 | 48 / 0.787 | | 2.0 / 0.056 | | | 0.06 | | | | 23 | 34 | 0 | 0.5 | | USGS |
| Apr 12 1540 | 516 | 59 | 11.5 | 113 | 58.3 | 7.3 | 3.8 / 0.190 | 2.7 / 0.218 | 3.3 / 0.143 | 0.8 / 0.020 | 0 / 0.000 | 32 / 0.524 | | 1.6 / 0.045 | | | 0.00 | | | | 25 | 20 | 0 | 4 | | USGS |
| May 11 0750 | 1,380 | 54 | 9.9 | 92 | 41.0 | 7.2 | 4.2 / 0.210 | 1.3 / 0.106 | 2.4 / 0.104 | 0.7 / 0.018 | 0 / 0.000 | 24 / 0.393 | 1.2 / 0.025 | 0.3 / 0.008 | 0.1 / 0.002 | 0.3 / 0.016 | 0.01 | 13 | Mn 0.005; (a) PO4 0.05 | 36[b] | 24 | 16 | 0 | 3 | | USGS |
| Jun 14 1645 | 989 | 58 | 9.5 | 92 | 35.8 | 7.2 | 4.7 / 0.235 | 0.8 / 0.065 | 1.8 / 0.078 | 0.4 / 0.010 | 0 / 0.000 | 22 / 0.361 | | 0.5 / 0.014 | | | 0.00 | | | | 20 | 15 | 0 | 1 | | USGS |
| Jul 13 1700 | 213 | 82 | 8.0 | 102 | 85.2 | 7.1 | 8.9 / 0.444 | 1.2 / 0.096 | 5.5 / 0.239 | 2.2 / 0.056 | 0 / 0.000 | 36 / 0.590 | | 3.8 / 0.107 | | | 0.00 | | | | 29 | 27 | 0 | 6 | | USGS |
| Aug 17 0945 | 50 | 72 | 9.3 | 106 | 109 | 7.5 | 13 / 0.649 | 1.8 / 0.151 | 5.7 / 0.248 | 1.4 / 0.036 | 0 / 0.000 | 55 / 0.901 | | 5.5 / 0.155 | | | 0.06 | | | | 23 | 40 | 0 | 0.6 | | USGS |
| Sep 13 1600 | 26 | 79 | 8.1 | 98 | 134 | 7.9 | 16 / 0.798 | 1.5 / 0.122 | 7.7 / 0.335 | 1.7 / 0.043 | 0 / 0.000 | 63 / 1.032 | 3.0 / 0.062 | 8.5 / 0.240 | 0.2 / 0.003 | 0.1 / 0.005 | 0.02 | 16 | Fe 0.02; Pb 0.01; | 86[b] | 26 | 46 | 0 | 0.5 | | USGS |
| Oct 11 11[illegible] | 21 | 60 | 9.1 | 91 | 152 | 7.5 | 17 / 0.848 | 2.5 / 0.206 | 8.8 / 0.383 | 1.8 / 0.046 | 0 / 0.000 | 71 / 1.164 | | 10 / 0.282 | | | 0.03 | | | | 26 | 53 | 0 | 0.5 | | USGS |
| Nov 15 11[illegible] | 74 | 46 | 10.2 | 85 | 164 | 7.5 | 19 / 0.948 | 2.4 / 0.200 | 8.9 / 0.387 | 1.9 / 0.049 | 0 / 0.000 | 80 / 1.311 | | 9.0 / 0.254 | | | 0.01 | | | | 24 | 57 | 0 | 25 | | USGS |
| Dec 13 1100 | 247 | 46 | 10.4 | 87 | 95.9 | 7.3 | 12 / 0.599 | 1.4 / 0.117 | 5.4 / 0.235 | 1.2 / 0.031 | 0 / 0.000 | 43 / 0.787 | | 4.0 / 0.113 | | | 0.03 | | | | 24 | 36 | 0 | 2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2.3 minimum 0.23 maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Kaweah River near Three Rivers | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1115 | 1,070 | 44 | 11.4 | 93 | 78.1 | 7.3 | 9.8 / 0.489 | 1.3 / 0.111 | 3.4 / 0.148 | 1.4 / 0.036 | 0 / 0.000 | 42 / 0.688 | | 1.8 / 0.051 | | | 0.02 | | | | 19 | 34 | 0 | 7 | | USGS |
| Feb 7 1020 | 924 | 40 | 12.4 | 95 | 92.1 | 7.3 | 13 / 0.649 | 0.6 / 0.047 | 4.4 / 0.191 | 1.4 / 0.036 | 0 / 0.000 | 50 / 0.820 | | 1.2 / 0.034 | | | 0.05 | | | | 21 | 35 | 0 | 2 | | USGS |
| Mar 13 1130 | 635 | 47 | 11.8 | 100 | 81.9 | 7.3 | 11 / 0.549 | 1.3 / 0.111 | 3.8 / 0.165 | 1.5 / 0.038 | 0 / 0.000 | 46 / 0.754 | | 1.8 / 0.051 | | | 0.05 | | | | 19 | 33 | 0 | 1 | | USGS |
| Apr 10 1205 | 1,180 | 45 | 10.8 | 89 | 51.0 | 7.5 | 6.8 / 0.339 | 0.7 / 0.061 | 2.8 / 0.122 | 1.2 / 0.031 | 0 / 0.000 | 33 / 0.541 | | 0.7 / 0.020 | | | 0.04 | | | | 22 | 26 | 0 | 5 | | USGS |
| May 8 1100 | 1,580 | 52 | 10.6 | 96 | 46.0 | 7.3 | 5.9 / 0.294 | 0.8 / 0.066 | 2.5 / 0.109 | 0.8 / 0.020 | 0 / 0.000 | 30 / 0.492 | 0.0 / 0.000 | 0.3 / 0.008 | 0.0 / 0.000 | 0.0 / 0.000 | 0.00 | 13 | Fe 0.03; Al 0.02; Cu 0.01; (a) $PO_4$ 0.00 | 38[b] | 22 | 18 | 0 | 5 | | USGS |
| June 12 1200 | 1,790 | 61 | 9.8 | 99 | 32.3 | 6.8 | 4.6 / 0.230 | 0.6 / 0.050 | 1.4 / 0.061 | 0.7 / 0.018 | 0 / 0.000 | 21 / 0.344 | | 0.1 / 0.003 | | | 0.06 | | | | 17 | 14 | 0 | 5 | | USGS |
| July 17 1030 | 478 | 70 | 9.1 | 91 | 57.4 | 6.8 | 8.0 / 0.399 | 0.4 / 0.031 | 3.1 / 0.135 | 1.2 / 0.031 | 0 / 0.000 | 33 / 0.541 | | 0.2 / 0.006 | | | 0.04 | | | | 23 | 22 | 0 | 2 | | USGS |
| Aug 14 1010 | 154 | 71 | 9.6 | 108 | 84.4 | 6.8 | 11 / 0.549 | 1.1 / 0.093 | 4.1 / 0.178 | 1.8 / 0.046 | 0 / 0.000 | 49 / 0.803 | | 1.8 / 0.051 | | | 0.00 | | | | 21 | 32 | 0 | 0.3 | | USGS |
| Sept 18 1030 | 54 | 67 | 9.7 | 104 | 123 | 7.7 | 16 / 0.798 | 1.3 / 0.146 | 6.1 / 0.265 | 2.4 / 0.061 | 0 / 0.000 | 66 / 1.082 | 1.9 / 0.040 | 4.7 / 0.133 | 0.4 / 0.006 | 0.2 / 0.011 | 0.00 | 15 | Al 0.01; (a) | 82[b] | 21 | 47 | 0 | 2 | | USGS |
| Oct 9 1110 | 78 | 64 | 9.9 | 104 | 129 | 7.9 | 17 / 0.85 | 2.2 / 0.18 | 5.9 / 0.26 | 2.0 / 0.05 | 0 / 0.00 | 71 / 1.16 | | 4.6 / 0.13 | | | 0.06 | | | | 19 | 52 | 0 | 3 | | USGS |
| Nov 14 1030 | 76 | 51 | 11.1 | 99 | 134 | 7.7 | 17 / 0.85 | 2.3 / 0.19 | 6.4 / 0.28 | 1.9 / 0.05 | 0 / 0.00 | 75 / 1.23 | | 5.7 / 0.16 | | | 0.00 | | | | 20 | 52 | 0 | 1.4 | | USGS |
| Dec 11 1015 | 82 | 42 | 13.1 | 104 | 146 | 7.5 | 18 / 0.90 | 2.2 / 0.26 | 7.7 / 0.33 | 1.8 / 0.05 | 0 / 0.00 | 77 / 1.26 | | 8.5 / 0.24 | | | 0.03 | | | | 21 | 58 | 0 | 1 | median 2.3 minimum .06 maximum 62 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Kern River near Bakersfield** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 0745 | 302 | 41 | 11.5 | 90 | 205 | 7.3 | 19 / 0.948 | 2.6 / 0.212 | 20 / 0.870 | 1.8 / 0.046 | 0 / 0.000 | 86 / 1.409 | | 11 / 0.310 | | | 0.29 | | | | 42 | 58 | 0 | 1 | | USGS |
| Feb 10 1230 | 321 | 49 | 11.5 | 100 | 207 | 7.6 | 20 / 0.998 | 3.4 / 0.282 | 23 / 1.000 | 2.1 / 0.054 | 0 / 0.000 | 100 / 1.639 | | 12 / 0.338 | | | 0.15 | | | | 43 | 64 | 0 | 0.6 | | USGS |
| Mar 9 1300 | 416 | 61 | 9.7 | 99 | 201 | 7.8 | 19 / 0.948 | 2.3 / 0.192 | 19 / 0.826 | 1.7 / 0.043 | 0 / 0.000 | 89 / 1.442 | | 9.5 / 0.268 | | | 0.13 | | | | 41 | 57 | 0 | 4 | | USGS |
| Apr 13 1040 | 643 | 57 | 11.0 | 106 | 199 | 7.7 | 9.7 / 0.484 | 7.9 / 0.648 | 18 / 0.783 | 2.1 / 0.054 | 0 / 0.000 | 91 / 1.491 | | 8.2 / 0.231 | | | 0.16 | | | | 40 | 57 | 0 | 2 | | USGS |
| May 11 1100 | 557 | 66 | 8.6 | 92 | 145 | 7.5 | 8.8 / 0.439 | 2.4 / 0.201 | 12 / 0.522 | 1.4 / 0.036 | 0 / 0.000 | 58 / 0.951 | 8.7 / 0.181 | 3.6 / 0.102 | 0.1 / 0.002 | 0.3 / 0.016 | 0.06 | 26 | Mn 0.01; (a) $PO_4$ 0.05; Pb 0.005 | 93[b] | 41 | 36 | 0 | 7 | | USGS |
| Jun 15 1015 | 1,258 | 65 | 9.4 | 99 | 71.5 | 7.4 | 7.8 / 0.389 | 1.1 / 0.091 | 6.0 / 0.261 | 0.3 / 0.020 | 0 / 0.000 | 35 / 0.574 | | 2.0 / 0.056 | | | 0.07 | | | | 34 | 24 | 0 | 4 | | USGS |
| Jul 14 1530 | 787 | 76 | | | 100 | | 8.9 / 0.444 | 1.7 / 0.136 | 9.0 / 0.391 | 1.2 / 0.031 | 0 / 0.000 | 46 / 0.754 | | 4.5 / 0.127 | | | 0.07 | | | | 39 | 29 | 0 | 2 | | USGS |
| Aug 17 1350 | 478 | 79 | 7.8 | 95 | 139 | 7.4 | 11 / 0.549 | 2.3 / 0.191 | 13 / 0.565 | 1.6 / 0.041 | 0 / 0.000 | 63 / 1.032 | | 6.5 / 0.183 | | | 0.04 | | | | 42 | 37 | 0 | 0.3 | | USGS |
| Sep 14 1300 | 274 | [illegible] | 7.6 | 91 | [illegible] | 7.5 | 18 / 0.898 | 2.7 / 0.222 | 17 / 0.739 | 2.1 / 0.054 | 0 / 0.000 | 84 / 1.377 | 13 / 0.271 | 11 / [illegible] | .2 / [illegible] | .4 / 0.021 | 0.19 | 11 | Fe 0.04; Al 0.04; Cu [illegible]; Pb [illegible]; Zn [illegible]; As [illegible] (a) | 117[b] | 39 | 56 | 0 | 1 | | [illegible] |
| Oct 11 1[illegible] | 144 | 6[illegible] | [illegible].4 | 92 | [illegible] | 7.7 | 18 / 0.898 | 3.2 / 0.264 | 26 / 1.131 | 2.3 / 0.059 | 0 / 0.000 | 86 / 1.410 | | 15 / 0.423 | | | 0.3 | | | | 43 | 59 | 0 | 0.6 | | [illegible] |
| Nov 15 1[illegible] | 281 | 49 | 10.4 | 91 | 251 | 7.7 | 22 / 1.098 | 3.4 / [illegible] | 25 / 1.088 | 3.2 / 0.082 | 0 / 0.000 | 106 / 1.737 | | 14 / 0.395 | | | 0.24 | | | | 43 | 69 | 0 | 30 | | [illegible] |
| Dec 7 1440 | 348 | 48 | 10.8 | 93 | 189 | 7.7 | 17 / 0.848 | 3.6 / 0.292 | 17 / 0.740 | 2.3 / 0.059 | 0 / [illegible] | 84 / 1.377 | | 7.2 / 0.203 | | | 0.20 | | | | 38 | 57 | 0 | 30 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 5.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Kern River near Bakersfield | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1500 | 618 | 43 | 11.9 | 95 | 125 | 7.3 | 11 / 0.549 | 2.0 / 0.161 | 11 / 0.478 | 1.4 / 0.036 | 0 / 0.000 | 56 / 0.918 | | 5.8 / 0.164 | | | 0.11 | | | | 39 | 36 | 0 | 6 | | USGS |
| Feb 7 1500 | 608 | 47 | 11.3 | 96 | 145 | 7.5 | 14 / 0.699 | 1.9 / 0.157 | 12 / 0.522 | 2.3 / 0.059 | 0 / 0.000 | 66 / 1.082 | | 5.1 / 0.144 | | | 0.16 | | | | 36 | 43 | 0 | 35 | | USGS |
| Mar 13 1540 | 1,176 | 52 | 11.6 | 105 | 139 | 7.5 | 13 / 0.649 | 2.3 / 0.191 | 12 / 0.522 | 2.1 / 0.054 | 0 / 0.000 | 65 / 1.065 | | 5.5 / 0.155 | | | 0.30 | | | | 37 | 42 | 0 | 35 | | USGS |
| Apr 10 1515 | 711 | 58 | 9.8 | 95 | 146 | 7.7 | 14 / 0.699 | 2.1 / 0.171 | 13 / 0.566 | 2.0 / 0.051 | 0 / 0.000 | 72 / 1.180 | | 6.0 / 0.169 | | | 0.21 | | | | 38 | 44 | 0 | 7 | | USGS |
| May 8 1445 | 1,396 | 62 | 9.6 | 98 | 119 | 7.7 | 11 / 0.549 | 2.0 / 0.163 | 10 / 0.435 | 1.7 / 0.043 | 0 / 0.000 | 62 / 1.016 | 3.6 / 0.075 | 4.4 / 0.124 | 0.3 / 0.005 | 0.0 / 0.000 | 0.08 | 16 | Fe 0.09; Al 0.07; Cu 0.01; Zn 0.01; $PO_4$ 0.06; (a) | 80[b] | 37 | 36 | 0 | 8 | | USGS |
| June 12 1510 | 1,683 | 70 | 9.3 | 104 | 91.1 | 6.9 | 9.7 / 0.484 | 0.7 / 0.058 | 7.8 / 0.339 | 1.5 / 0.038 | 0 / 0.000 | 47 / 0.770 | | 2.5 / 0.070 | | | 0.15 | | | | 37 | 27 | 0 | 15 | | USGS |
| July 17 1420 | 1,974 | 72 | 8.9 | 101 | 82.8 | 7.0 | 8.6 / 0.429 | 0.9 / 0.077 | 6.8 / 0.296 | 1.3 / 0.033 | 0 / 0.000 | 43 / 0.705 | | 2.1 / 0.059 | | | 0.10 | | | | 35 | 25 | 0 | 6 | | USGS |
| Aug 14 1330 | 2,002 | 74 | 9.0 | 104 | 89.8 | 6.9 | 8.6 / 0.429 | 1.5 / 0.125 | 7.6 / 0.331 | 1.6 / 0.041 | 0 / 0.000 | 47 / 0.770 | | 2.5 / 0.070 | | | 0.00 | | | | 36 | 28 | 0 | 0.8 | | USGS |
| Sept 18 1345 | 835 | 72 | 9.1 | 103 | 116 | 7.7 | 11 / 0.549 | 1.8 / 0.147 | 10 / 0.435 | 1.9 / 0.049 | 0 / 0.000 | 59 / 0.967 | 0.0 / 0.000 | 5.0 / 0.141 | 1.1 / 0.018 | 0.4 / 0.021 | 0.02 | 10 | Al 0.02; Cu 0.01; (a) | 70[b] | 37 | 35 | 0 | 2 | | USGS |
| Oct 9 1440 | 635 | 70 | 8.9 | 99 | 400 | 7.7 | 64 / 3.19 | 2.2 / 0.18 | 13 / 0.57 | 2.3 / 0.06 | 0 / 0.00 | 74 / 1.21 | | 5.8 / 0.16 | | | 0.13 | | | | 14 | 168 | 107 | 95 | | USGS |
| Nov 14 1140 | 310 | 55 | 10.0 | 95 | 187 | 7.7 | 18 / 0.90 | 2.3 / 0.19 | 15 / 0.65 | 2.4 / 0.06 | 0 / 0.00 | 77 / 1.26 | | 1.1 / 0.03 | | | 0.07 | | | | 36 | 54 | 0 | 10 | | USGS |
| Dec 11 1445 | 260 | 49 | 11.7 | 102 | 201 | 7.6 | 19 / 0.95 | 2.3 / 0.19 | 18 / 0.78 | 2.2 / 0.06 | 0 / 0.00 | 82 / 1.34 | | 13 / 0.37 | | | 0.16 | | | | 39 | 57 | 0 | 5 | median 5.6 minimum .23 maximum 620 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Series 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Kern River below Isabella Dam | | | | | | | | | | | | | | | |
| 1945 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 14 1945 | 135 | 70 | 7.0 | 78 | 184 | 7.7 | 20 / 0.998 | 2.1 / 0.170 | 14 / 0.609 | 2.9 / 0.074 | 0 / 0.000 | 93 / 1.620 | 6.8 / 0.142 | 2.3 / 0.065 | 0.2 / 0.003 | 0.4 / 0.021 | 0.20 | 7.9 | Fe 0.03; As 0.01; (a) | 106[b] | 33 | 58 | 0 | 0.9 | | [illegible] |
| Oct 11 1945 | 16 | 62 | 7.1 | 74 | [illegible] | | 24 / 1.198 | 3.8 / 0.310 | 18 / 0.783 | 3.6 / 0.092 | 0 / 0.000 | 121 / 1.983 | | 4.7 / 0.133 | | | 0.26 | | | | 33 | 75 | 0 | 3 | | [illegible] |
| Nov 16 1945 | 13 | 45 | 10.4 | 99 | 207 | | 29 / 1.447 | 5.0 / 0.411 | 24 / 1.044 | 4.0 / 0.102 | 0 / 0.000 | 143 / 2.426 | | 9.0 / 0.254 | | | 0.32 | | | | 35 | 93 | 0 | 5 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 1.51 | |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | minimum .21 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Kern River below Isabella Dam | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 5 1100 | 3.2 | 38 | | | 101 | 7.5* | 9.1 / 0.454 | 1.8 / 0.146 | 8.4 / 0.365 | 1.1 / 0.028 | 0 / 0.000 | 49 / 0.803 | | 2.0 / 0.056 | | | 0.12 | | | | 37 | 30 | 0 | 10 | | USGS |
| Feb 25 1300 | 202 | 45 | 10.2 | 84 | 116 | 7.9* | 11 / 0.549 | 2.6 / 0.211 | 9.4 / 0.409 | 2.0 / 0.051 | 0 / 0.000 | 57 / 0.934 | | 4.0 / 0.113 | | | 0.12 | | | | 34 | 38 | 0 | 15 | | USGS |
| Mar 21 1300 | 389 | 49 | | | 154 | 7.7* | 16 / 0.798 | 0.3 / 0.022 | 11 / 0.478 | 2.2 / 0.056 | 0 / 0.000 | 71 / 1.164 | | 4.0 / 0.113 | | | 0.19 | | | | 35 | 41 | 0 | 40 | | USGS |
| Apr 19 1130 | 111 | 54 | 9.0 | 83 | 127 | 7.4* | 12 / 0.599 | 2.0 / 0.161 | 10 / 0.435 | 1.9 / 0.049 | 0 / 0.000 | 63 / 1.033 | | 3.5 / 0.099 | | | 0.09 | | | | 35 | 38 | 0 | 3 | | USGS |
| May 14 1700 | 896 | 58 | 8.3 | 81 | 103 | 7.3* | 9.9 / 0.494 | 2.1 / 0.174 | 8.7 / 0.378 | 1.5 / 0.038 | 0 / 0.000 | 56 / 0.918 | 6.0 / 0.125 | 2.7 / 0.076 | 0.3 / 0.005 | 0.0 / 0.000 | 0.11 | 17 | Fe 0.05; Al 0.06; Cu 0.01; $PO_4$ 0.10; (a) | 76[b] | 35 | 33 | 0 | 2 | | USGS |
| June 22 1000 | 1,590 | 63 | 8.4 | 87 | 76.6 | 6.9* | 8.4 / 0.419 | 0.7 / 0.059 | 6.0 / 0.261 | 1.3 / 0.033 | 0 / 0.000 | 41 / 0.672 | | 1.2 / 0.034 | | | 0.11 | | | | 34 | 24 | 0 | 2 | | USGS |
| July 20 0845 | 1,340 | 66 | 7.9 | 84 | 66.4 | 7.1* | 7.6 / 0.379 | 0.6 / 0.051 | 5.0 / 0.218 | 1.1 / 0.028 | 0 / 0.000 | 36 / 0.590 | | 0.7 / 0.020 | | | 0.09 | | | | 32 | 22 | 0 | 2 | | USGS |
| Aug 15 1350 | 1,440 | 67 | 8.0 | 86 | 80.6 | 6.9* | 8.8 / 0.439 | 0.7 / 0.061 | 6.2 / 0.270 | 1.3 / 0.033 | 0 / 0.000 | 42 / 0.688 | | 2.0 / 0.056 | | | 0.06 | | | | 34 | 25 | 0 | 2 | | USGS |
| Sept 17 1000 | 294 | 70 | | | 98.9 | 7.2* | 11 / 0.549 | 0.9 / 0.075 | 7.9 / 0.344 | 1.9 / 0.049 | 0 / 0.000 | 53 / 0.869 | 1.9 / 0.040 | 2.4 / 0.068 | 1.3 / 0.021 | 0.4 / 0.021 | 0.02 | 10 | Fe 0.03; Al 0.02; Cu 0.01; (a) | 64[b] | 34 | 31 | 0 | 2 | | USGS |
| Oct 16 1100 | 6.2 | 64 | 8.9 | 93 | 123 | 7.1* | 13 / 0.65 | 1.9 / 0.16 | 10 / 0.44 | 2.0 / 0.05 | 0 / 0.00 | 66 / 1.08 | | 4.0 / 0.11 | | | 0.11 | | | | 34 | 40 | 0 | 0.6 | | USGS |
| Nov 14 1500 | 2.5 | 54 | 10.0 | 93 | 134 | 7.6* | 13 / 0.65 | 1.9 / 0.16 | 11 / 0.48 | 1.9 / 0.05 | 0 / 0.00 | 70 / 1.15 | | 5.0 / 0.14 | | | 0.02 | | | | 36 | 40 | 0 | 1.9 | | USGS |
| Dec 13 1615 | .7. | 51 | 9.6 | 86 | 146 | 7.5* | 14 / 0.70 | 2.9 / 0.24 | 12 / 0.52 | 2.0 / 0.05 | 0 / 0.00 | 77 / 1.26 | | 5.0 / 0.14 | | | 0.07 | | | | 34 | 47 | 0 | 1 | median 2.3 minimum .045 - maximum 2400 | USGS |

* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Kern River near Kernville | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 19 0930 | 148 | | | | 156 | | 14 / 0.699 | 2.0 / 0.161 | 15 / 0.652 | 1.6 / 0.041 | 0 / 0.000 | 69 / 1.131 | 11 / 0.229 | 4.0 / 0.113 | 0.4 / 0.006 | 0.3 / 0.016 | 0.20 | 17 | Fe 0.01; Al 0.02; Cu 0.01; (a) | 100[b] | 42 | 43 | 0 | 0.8 | | 0333 |
| Oct 10 1500 | 132 | 60 | 9.2 | 92 | 167 | | 14 / 0.699 | 2.6 / 0.217 | 17 / 0.740 | 1.8 / 0.046 | 0 / 0.000 | 73 / 1.196 | | 6.9 / 0.195 | | | 0.19 | | | | 43 | 46 | 0 | 1 | | 0333 |
| Nov.28 1200 | 202 | 43 | 11.0 | 98 | 162 | | 15 / 0.748 | 1.8 / 0.152 | 17 / 0.740 | 1.8 / 0.046 | 0 / 0.000 | 72 / 1.180 | | 7.5 / 0.12 | | | 0.19 | | | | 44 | 45 | 0 | 1 | | 0333 |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 5

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Kern River near Kernville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1100 | 680 | 44 | 10.1 | 82 | 106 | 7.4* | 9.4 / 0.469 | 2.0 / 0.167 | 8.8 / 0.383 | 1.2 / 0.031 | 0 / 0.000 | 52 / 0.852 | | 2.5 / 0.070 | | | 0.03 | | | | 36 | 32 | 0 | 4 | | USGS |
| Feb 25 1200 | 625 | 40 | 11.1 | 86 | 117 | 7.3* | 11 / 0.549 | 2.1 / 0.171 | 11 / 0.478 | 1.2 / 0.031 | 0 / 0.000 | 58 / 0.951 | | 4.5 / 0.127 | | | 0.04 | | | | 39 | 36 | 0 | 5 | | USGS |
| Mar 21 1100 | 908 | 44 | | | 101 | 7.5* | 6.4 / 0.319 | 3.9 / 0.321 | 9.0 / 0.392 | 1.3 / 0.033 | 0 / 0.000 | 56 / 0.918 | | 2.5 / 0.070 | | | 0.11 | | | | 37 | 32 | 0 | 15 | | USGS |
| Apr 19 1100 | 1,220 | 50 | 10.0 | 88 | 83.2 | 7.4* | 7.8 / 0.389 | 1.1 / 0.091 | 7.5 / 0.326 | 1.2 / 0.031 | 0 / 0.000 | 44 / 0.721 | | 1.6 / 0.045 | | | 0.06 | | | | 39 | 24 | 0 | 3 | | USGS |
| May 14 1500 | 1,530 | 54 | 9.6 | 89 | 64.8 | 7.3* | 7.0 / 0.349 | 1.5 / 0.121 | 5.4 / 0.235 | 1.0 / 0.026 | 0 / 0.000 | 38 / 0.623 | 3.6 / 0.075 | 1.1 / 0.031 | 0.1 / 0.002 | 0.0 / 0.000 | 0.03 | 16 | Fe 0.05; Al 0.03; Cu 0.01; $PO_4$ 0.05; (a) | 55[b] | 32 | 23 | 0 | 3 | | USGS |
| June 22 0900 | 2,410 | 60 | 8.5 | 85 | 40.2 | 6.8* | 4.5 / 0.225 | 0.3 / 0.025 | 2.9 / 0.126 | 0.7 / 0.018 | 0 / 0.000 | 23 / 0.377 | | 0.3 / 0.008 | | | 0.10 | | | | 32 | 12 | 0 | 5 | | USGS |
| July 20 1000 | 1,410 | 64 | 9.2 | 96 | 50.5 | 7.0* | 5.6 / 0.279 | 0.6 / 0.049 | 4.0 / 0.174 | 0.7 / 0.018 | 0 / 0.000 | 28 / 0.459 | | 1.0 / 0.028 | | | 0.07 | | | | 33 | 16 | 0 | 3 | | USGS |
| Aug 15 1300 | 545 | 63 | 8.9 | 92 | 75.3 | 6.7* | 8.0 / 0.399 | 0.5 / 0.045 | 6.2 / 0.270 | 1.3 / 0.033 | 0 / 0.000 | 34 / 0.557 | | 2.0 / 0.056 | | | 0.06 | | | | 36 | 22 | 0 | 0.7 | | USGS |
| Sept 17 0900 | 258 | 60 | 8.1 | 81 | 112 | 7.1* | 9.6 / 0.479 | 1.6 / 0.133 | 11 / 0.473 | 1.2 / 0.031 | 0 / 0.000 | 53 / 0.869 | 7.7 / 0.160 | 3.6 / 0.102 | 0.1 / 0.002 | 0.0 / 0.000 | 0.06 | 15 | Fe 0.01; Al 0.05; Cu 0.01; Zn 0.01; $PO_4$ 0.00; (a) | 76[b] | 43 | 31 | 0 | 0.7 | | USGS |
| Oct 16 1015 | 245 | 52 | 9.9 | 90 | 123 | 7.3* | 11 / 0.55 | 1.6 / 0.13 | 12 / 0.52 | 1.4 / 0.04 | 0 / 0.00 | 60 / 0.98 | | 5.0 / 0.14 | | | 0.16 | | | | 42 | 34 | 0 | 0.4 | | USGS |
| Nov 14 1430 | 223 | 47 | 10.3 | 87 | 136 | 7.4* | 12 / 0.60 | 1.9 / 0.16 | 13 / 0.57 | 1.4 / 0.04 | 0 / 0.00 | 67 / 1.10 | | 6.0 / 0.17 | | | 0.06 | | | | 42 | 38 | 0 | 0.8 | | USGS |
| Dec 13 1530 | 240 | 44 | 10.6 | 87 | 142 | 7.9* | 13 / 0.65 | 2.3 / 0.19 | 14 / 0.61 | 1.5 / 0.04 | 0 / 0.00 | 74 / 1.21 | | 5.5 / 0.16 | | | 0.09 | | | | 41 | 42 | 0 | 1 | median 2.3 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .21 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Kings River Below North Fork | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 13 1200 | 176 | 69 | 7.4 | 81 | 59.3 | 7.1 | 6.4 / 0.319 | 0.8 / 0.065 | 3.6 / 0.157 | 1.0 / 0.026 | 0 / 0.000 | 26 / 0.426 | 4.8 / 0.100 | 1.6 / 0.045 | 0.00 / 0.000 | 0.2 / 0.011 | 0.00 | 11 | Fe 0.02; Cu 0.01; | 42[b] | 28 | 19 | 0 | 0.9 | | USGS |
| Oct 11 1200 | 136 | 66 | 9.6 | 103 | 68.1 | | 6.7 / 0.334 | 1.2 / 0.098 | 4.4 / 0.191 | 1.1 / 0.028 | 0 / 0.000 | 28 / 0.459 | | 1.3 / 0.037 | | | 0.04 | | | | 29 | 22 | 0 | 2 | | USGS |
| Nov 9 1400 | 132 | 60 | 9.6 | 96 | 71.7 | | 7.6 / 0.379 | 0.5 / 0.041 | 4.5 / 0.196 | 1.2 / 0.031 | 0 / 0.000 | 30 / 0.492 | | 3.8 / 0.107 | | | 0.00 | | | | 30 | 21 | 0 | 6 | | USGS |
| Dec 9 1330 | 1,470 | 50 | 10.3 | 91 | 51.2 | | 6.0 / 0.299 | 1.0 / 0.081 | 2.7 / 0.117 | 1.0 / 0.026 | 0 / 0.000 | 23 / 0.377 | | 0.5 / 0.014 | | | 0.04 | | | | 22 | 19 | 0 | 15 | median 1.46<br>minimum .23<br>maximum 21 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn); zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

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e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH) Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | **Kings River Below North Fork** | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1330 | 1,860 | 46 | 12.0 | 100 | 44.0 | 7.6* | 5.4 / 0.269 | 0.1 / 0.011 | 2.8 / 0.122 | 0.9 / 0.023 | 0 / 0.000 | 22 / 0.361 | | 0.0 / 0.000 | | | 0.08 | | | | 29 | 14 | 0 | 3 | | USGS |
| Feb 10 1430 | 1,500 | 48 | 10.3 | 89 | 50.3 | 7.7* | 5.6 / 0.279 | 1.0 / 0.081 | 3.1 / 0.135 | 0.9 / 0.023 | 0 / 0.000 | 27 / 0.443 | | 1.5 / 0.042 | | | 0.01 | | | | 26 | 18 | 0 | 4 | | USGS |
| Mar 9 1330 | 1,360 | 52 | 12.1 | 110 | 48.4 | 7.5* | 6.0 / 0.299 | 0.5 / 0.039 | 3.1 / 0.135 | 1.0 / 0.026 | 0 / 0.000 | 28 / 0.459 | | 0.2 / 0.006 | | | 0.00 | | | | 27 | 17 | 0 | 2 | | USGS |
| Apr 13 1100 | 3,200 | 52 | 11.6 | 105 | 33.7 | 7.0* | 3.8 / 0.190 | 0.5 / 0.042 | 2.2 / 0.096 | 0.8 / 0.020 | 0 / 0.000 | 20 / 0.328 | | 0.4 / 0.011 | | | 0.01 | | | | 28 | 12 | 0 | 2 | | USGS |
| May 11 1300 | 4,590 | 50 | 10.3 | 91 | 29.1 | 7.1* | 3.0 / 0.150 | 0.9 / 0.070 | 2.3 / 0.100 | 1.3 / 0.033 | 0 / 0.000 | 20 / 0.328 | 1.4 / 0.029 | 0.2 / 0.006 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 11 | Fe 0.02; Al 0.05; Cu 0.01; $IO_4$ 0.04; (a) | 30[b] | 23 | 11 | 0 | 2 | | USGS |
| June 7 1300 | 9,270 | 52 | 10.2 | 92 | 18.2 | 6.9* | 2.1 / 0.105 | 0.3 / 0.025 | 1.0 / 0.044 | 0.5 / 0.013 | 0 / 0.000 | 12 / 0.197 | | 0.0 / 0.000 | | | 0.09 | | | | 24 | 6 | 0 | 8 | | USGS |
| July 11 1400 | 4,070 | 64 | 9.7 | 101 | 19.1 | 6.5* | 2.2 / 0.110 | 0.2 / 0.020 | 1.0 / 0.044 | 0.7 / 0.018 | 0 / 0.000 | 11 / 0.180 | | 0.1 / 0.003 | | | 0.00 | | | | 23 | 6 | 0 | 0.4 | | USGS |
| Aug 8 1230 | 1,380 | 68 | 9.6 | 105 | 30.0 | 6.6* | 3.2 / 0.160 | 0.5 / 0.044 | 1.6 / 0.070 | 0.8 / 0.020 | 0 / 0.000 | 17 / 0.279 | | 0.1 / 0.003 | | | 0.00 | | | | 24 | 10 | 0 | 0.3 | | USGS |
| Sept 18 1330 | 343 | 65 | 9.8 | 103 | 49.5 | 7.2* | 6.4 / 0.319 | 0.5 / 0.041 | 2.7 / 0.117 | 1.0 / 0.026 | 0 / 0.000 | 26 / 0.426 | 1.9 / 0.040 | 1.0 / 0.028 | 0.3 / 0.005 | 0.3 / 0.016 | 0.00 | 10 | | 37[b] | 23 | 18 | 0 | 0.4 | | USGS |
| Oct 11 1200 | 391 | 61 | 12.0 | 121 | 52.6 | 6.9* | 6.3 / 0.31 | 0.5 / 0.04 | 2.8 / 0.12 | 1.0 / 0.03 | 0 / 0.00 | 24 / 0.39 | | 1.5 / 0.04 | | | 0.04 | | | | 24 | 18 | 0 | 1 | | USGS |
| Nov 28 1130 | 234 | 48 | 11.9 | 102 | 64.6 | 6.9* | 7.2 / 0.36 | 0.9 / 0.07 | 3.9 / 0.17 | 1.1 / 0.03 | 0 / 0.00 | 33 / 0.54 | | 2.4 / 0.07 | | | 0.03 | | | | 27 | 21 | 0 | 2 | | USGS |
| Dec 29 1515 | 222 | 41 | 13.7 | 107 | 65.3 | 7.1* | 6.0 / 0.30 | 1.9 / 0.16 | 4.2 / 0.18 | 1.0 / 0.03 | 0 / 0.00 | 29 / 0.48 | | 2.5 / 0.07 | | | 0.02 | | | | 27 | 23 | 0 | 1 | median 6.2 minimum .06 maximum 2400 | USGS |

* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Kings River below Peoples Weir (near Kingsburg)** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1600 | 35 | 46 | 10.3 | 86 | 212 | 7.3 | 22 / 1.098 | 5.6 / 0.462 | 14 / 0.609 | 2.1 / 0.054 | 0 / 0.000 | 109 / 1.786 | | 7.0 / 0.197 | | | 0.17 | | | | 27 | 78 | 0 | 4 | | USGS |
| Feb 10 1600 | 94 | 56 | 9.8 | 93 | 207 | 7.8 | 19 / 0.948 | 8.7 / 0.712 | 13 / 0.565 | 2.0 / 0.051 | 0 / 0.000 | 108 / 1.770 | | 5.5 / 0.155 | | | 0.06 | | | | 25 | 83 | 0 | 1 | | USGS |
| Mar 9 1530 | 250 | 61 | 9.1 | 91 | 103 | 7.2 | 9.6 / 0.479 | 3.4 / 0.281 | 5.9 / 0.257 | 1.4 / 0.036 | 0 / 0.000 | 50 / 0.819 | | 3.5 / 0.099 | | | 0.04 | | | | 24 | 38 | 0 | 2 | | USGS |
| Apr 13 1330 | 73 | 65 | 8.8 | 93 | 159 | 7.4 | 11 / 0.549 | 7.4 / 0.611 | 10 / 0.435 | 1.9 / 0.049 | 0 / 0.000 | 86 / 1.409 | | 4.9 / 0.135 | | | 0.05 | | | | 26 | 58 | 0 | 2 | | USGS |
| May 10 1550 | 140 | 73 | 8.4 | 97 | 116 | 7.3 | 11 / 0.549 | 3.3 / 0.271 | 7.2 / 0.313 | 1.5 / 0.038 | 0 / 0.000 | 59 / 0.967 | 5.1 / 0.106 | 3.8 / 0.107 | 0.1 / 0.018 | 0.1 / 0.005 | 0.04 | 16 | $PO_4$ 0.10 | 78[b] | 27 | 41 | 0 | 1 | | USGS |
| Jun 15 1350 | 1,090 | 64 | 9.0 | 94 | 35.8 | 6.8 | 4.0 / 0.200 | 1.2 / 0.100 | 2.5 / 0.109 | 1.0 / 0.026 | 0 / 0.000 | 20 / 0.328 | | 0.5 / 0.014 | | | 0.02 | | | | 25 | 15 | 0 | 2 | | USGS |
| Jul 14 0945 | 692 | 73 | 8.8 | 101 | 48.7 | 7.0 | 4.0 / 0.200 | 0.9 / 0.070 | 3.3 / 0.143 | 1.1 / 0.028 | 0 / 0.000 | 18 / 0.295 | | 1.8 / 0.051 | | | 0.00 | | | | 32 | 14 | 0 | 7 | | USGS |
| Aug 17 0815 | 1,096 | 74 | 7.8 | 90 | 40.7 | 7.2 | 4.2 / 0.210 | 1.0 / 0.080 | 2.2 / 0.096 | 0.8 / 0.020 | 0 / 0.000 | 21 / 0.344 | | 0.5 / 0.014 | | | 0.11 | | | | 24 | 14 | 0 | 2 | | USGS |
| Sep 14 1720 | 377 | 68 | 7.9 | 86 | 43.9 | 6.9 | 4.7 / 0.235 | 1.1 / 0.093 | 2.5 / 0.109 | 0.7 / 0.018 | 0 / 0.000 | 23 / 0.377 | 2.6 / 0.054 | 0.5 / 0.014 | 0.3 / 0.005 | 0.2 / 0.011 | 0.01 | 7.8 | Fe 0.13; Cu 0.01 (a) | 32[b] | 24 | 16 | 0 | 2.0 | | USGS |
| Oct 11 0900 | 13 | 62 | 6.4 | 65 | 106 | 7.1 | 9.9 / 0.494 | 4.6 / 0.382 | 6.5 / 0.283 | 1.5 / 0.038 | 0 / 0.000 | 56 / 0.918 | | 2.3 / 0.065 | | | 0.04 | | | | 24 | 44 | 0 | 2 | | USGS |
| Nov 15 0915 | 69 | 49 | 9.7 | 85 | 234 | 7.3 | 20 / 0.998 | 6.7 / 0.554 | 16 / 0.696 | 3.2 / 0.082 | 0 / 0.000 | 118 / 1.934 | | 8.0 / 0.226 | | | 0.00 | | | | 30 | 78 | 0 | 30 | | USGS |
| Dec 13 1500 | 53 | 50 | 9.9 | 87 | 228 | 7.3 | 21 / 1.048 | 7.5 / 0.620 | 14 / 0.609 | 3.8 / 0.097 | 0 / 0.000 | 112 / 1.836 | | 6.4 / 0.180 | | | 0.04 | | | | 26 | 83 | 0 | 4 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 96 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

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## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Kings River below Peoples Weir (Near Kingsburg) | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 0950 | 54 | 50 | 10.2 | 90 | 232 | 7.3 | 21 / 1.048 | 8.7 / 0.712 | 14 / 0.609 | 3.0 / 0.077 | 0 / 0.000 | 119 / 1.950 | | 5.2 / 0.147 | | | 0.00 | | | | 25 | 88 | 0 | 7 | | USGS |
| Feb 7 0840 | 850 | 45 | 11.5 | 95 | 71.5 | 7.3 | 8.0 / 0.399 | 1.4 / 0.117 | 3.7 / 0.161 | 1.7 / 0.043 | 0 / 0.000 | 36 / 0.590 | | 0.1 / 0.003 | | | 0.07 | | | | 22 | 26 | 0 | 35 | | USGS |
| Mar 14 1000 | 1,500 | 49 | 11.2 | 98 | 64.5 | 7.1 | 7.6 / 0.379 | 1.2 / 0.101 | 2.8 / 0.122 | 1.6 / 0.041 | 0 / 0.000 | 34 / 0.557 | | 0.8 / 0.023 | | | 0.02 | | | | 19 | 24 | 0 | 20 | | USGS |
| Apr 11 0940 | 380 | 55 | 9.9 | 93 | 104 | 7.1 | 10 / 0.499 | 2.9 / 0.241 | 6.2 / 0.270 | 1.8 / 0.046 | 0 / 0.000 | 59 / 0.967 | | 1.9 / 0.054 | | | 0.06 | | | | 26 | 37 | 0 | 9 | | USGS |
| Nov 6 0915 | 805 | 57 | 9.7 | 93 | 61.5 | 7.1 | 6.4 / 0.319 | 2.2 / 0.181 | 3.5 / 0.152 | 1.3 / 0.033 | 0 / 0.000 | 35 / 0.574 | 4.0 / 0.083 | 1.2 / 0.034 | 0.3 / 0.005 | 0.0 / 0.000 | 0.00 | 11 | Fe 0.06; Cu 0.01; $PO_4$ 0.10; (a) | 47[b] | 22 | 25 | 0 | 12 | | USGS |
| June 12 1030 | 2,775 | 61 | 9.2 | 99 | 35.3 | 6.8 | 4.5 / 0.225 | 0.7 / 0.055 | 2.0 / 0.087 | 0.9 / 0.023 | 0 / 0.000 | 22 / 0.361 | | 0.1 / 0.002 | | | 0.12 | | | | 22 | 14 | 0 | 6 | | USGS |
| July 17 0850 | 2,520 | 58 | 10.0 | 98 | 37.1 | 6.8 | 4.5 / 0.225 | 0.6 / 0.051 | 2.0 / 0.087 | 0.8 / 0.020 | 0 / 0.000 | 22 / 0.361 | | 0.1 / 0.003 | | | 0.06 | | | | 23 | 14 | 0 | 6 | | USGS |
| Aug 14 0850 | 2,650 | 60 | 9.9 | 99 | 27.5 | 6.8 | 3.0 / 0.150 | 0.5 / 0.040 | 1.5 / 0.065 | 0.8 / 0.020 | 0 / 0.000 | 16 / 0.262 | | 0.1 / 0.003 | | | 0.00 | | | | 24 | 10 | 0 | 0.8 | | USGS |
| Sept 18 0910 | 610 | 66 | 9.2 | 98 | 51.4 | 7.1 | 6.0 / 0.299 | 1.0 / 0.081 | 2.8 / 0.122 | 0.8 / 0.020 | 0 / 0.000 | 29 / 0.475 | 0.0 / 0.000 | 1.0 / 0.028 | 0.8 / 0.013 | 0.3 / 0.016 | 0.00 | 9.0 | Al 0.01; Cu 0.01; (a) | 36[b] | 23 | 19 | 0 | 3 | | USGS |
| Oct 9 1000 | 108 | 65 | 9.0 | 95 | 107 | 7.3 | 9.0 / 0.49 | 2.3 / 0.27 | 6.5 / 0.28 | 1.4 / 0.04 | 0 / 0.00 | 57 / 0.93 | | 3.0 / 0.08 | | | 0.02 | | | | 26 | 38 | 0 | 0.8 | | USGS |
| Nov 14 0910 | 3.0 | 55 | 6.6 | 63 | 191 | 7.1 | 18 / 0.90 | 5.5 / 0.45 | 12 / 0.52 | 1.9 / 0.05 | 0 / 0.00 | 101 / 1.66 | | 6.1 / 0.17 | | | 0.10 | | | | 27 | 67 | 0 | 3 | | USGS |
| Dec 11 0830 | 4.0 | 46 | 10.1 | 85 | 232 | 7.3 | 22 / 1.10 | 7.5 / 0.62 | 16 / 0.70 | 2.3 / 0.06 | 0 / 0.00 | 124 / 2.03 | | 8.5 / 0.24 | | | 0.04 | | | | 28 | 86 | 0 | 2 | median 23<br>minimum .23<br>maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Kings River below Pine Flat Dam | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 13 0900 | 986 | 59 | 9.8 | 97 | 28.1 | 7.1 | 3.4 / 0.170 | 0.4 / 0.030 | 1.3 / 0.057 | 0.5 / 0.013 | 0 / 0.000 | 16 / 0.262 | 0.0 / 0.000 | 0.5 / 0.014 | 0.4 / 0.006 | 0.0 / 0.000 | 0.03 | 7.7 | Fe 0.13; (a) | 22[b] | 21 | 10 | 0 | 2 | | [illegible] |
| Oct 11 1330 | 62 | 71 | 8.1 | 91 | 62.9 | | 6.4 / 0.319 | 1.6 / 0.133 | 3.3 / 0.144 | 1.1 / 0.028 | 0 / 0.000 | 29 / 0.475 | 3.2 / 0.067 | 1.0 / 0.028 | | | 0.03 | 10 | Fe 0.06; (a) | | 23 | 23 | 0 | 3 | | [illegible] |
| Nov 9 1400 | 11 | 64 | 9.9 | 103 | 62.3 | | 6.6 / 0.329 | 1.1 / 0.091 | 3.3 / 0.144 | 1.1 / 0.028 | 0 / 0.000 | 28 / 0.459 | | 2.2 / 0.062 | | | 0.02 | | | | 24 | 21 | 0 | 15 | | [illegible] |
| Dec 9 1940 | 54 | 55 | 11.1 | 104 | 62.0 | | 6.6 / 0.329 | 1.3 / 0.107 | 3.8 / 0.165 | 1.3 / 0.033 | 0 / 0.000 | 28 / 0.459 | | 2.5 / 0.070 | | | 0.00 | | | | 26 | 22 | 0 | 4 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 116 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .05 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Kings River below Pine Flat Dam | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1530 | 70 | 46 | 10.5 | 88 | 50.8 | 6.7* | 6.4 / 0.319 | 0.7 / 0.057 | 1.8 / 0.078 | 2.1 / 0.054 | 0 / 0.000 | 25 / 0.410 | | 0.0 / 0.000 | | | 0.06 | | | | 15 | 19 | 0 | 230 | | USGS |
| Feb 10 1030 | 3,010 | 52 | 11.5 | 104 | 49.9 | 7.6* | 6.1 / 0.304 | 0.7 / 0.054 | 2.4 / 0.104 | 1.4 / 0.036 | 0 / 0.000 | 26 / 0.426 | | 0.0 / 0.000 | | | 0.05 | | | | 21 | 18 | 0 | 50 | | USGS |
| Mar 9 1100 | 2,870 | 52 | 11.9 | 108 | 53.8 | 7.4* | 6.3 / 0.314 | 1.3 / 0.106 | 2.8 / 0.122 | 1.6 / 0.041 | 0 / 0.000 | 31 / 0.508 | | 0.0 / 0.000 | | | 0.00 | | | | 21 | 21 | 0 | 15 | | USGS |
| Apr 15 1700 | 1,820 | 51 | 10.9 | 91 | 55.4 | 7.2* | 6.0 / 0.299 | 1.3 / 0.109 | 2.8 / 0.122 | 1.4 / 0.036 | 0 / 0.000 | 32 / 0.524 | | 0.6 / 0.017 | | | 0.03 | | | | 22 | 20 | 0 | 8 | | USGS |
| May 8 1310 | 1,920 | 56 | 11.9 | 113 | 49.5 | 7.4* | 5.4 / 0.269 | 1.6 / 0.131 | 2.6 / 0.113 | 1.2 / 0.031 | 0 / 0.000 | 29 / 0.475 | 3.2 / 0.067 | 0.4 / 0.011 | 0.5 / 0.008 | 0.0 / 0.000 | 0.00 | 12 | Fe 0.08; $PO_4$ 0.10; Al 0.08 (a) | 41[b] | 21 | 20 | 0 | 6 | | USGS |
| June 13 1400 | 8,360 | 58 | 10.4 | 101 | 28.8 | 7.0* | 3.6 / 0.180 | 0.4 / 0.036 | 1.5 / 0.065 | 0.8 / 0.020 | 0 / 0.000 | 18 / 0.295 | | 0.0 / 0.000 | | | 0.12 | | | | 22 | 11 | 0 | 4 | | USGS |
| July 13 1030 | 7,650 | 67 | 10.3 | 111 | 19.5 | 6.8* | 2.1 / 0.105 | 0.3 / 0.025 | 1.7 / 0.074 | 1.1 / 0.028 | 0 / 0.000 | 14 / 0.229 | | 0.1 / 0.003 | | | 0.00 | | | | 32 | 6 | 0 | 0.4 | | USGS |
| Aug 10 1100 | 5,960 | 66 | 11.1 | 118 | 21.6 | 6.5* | 2.4 / 0.120 | 0.2 / 0.020 | 1.7 / 0.074 | 0.8 / 0.020 | 0 / 0.000 | 14 / 0.229 | | 0.1 / 0.003 | | | 0.00 | | | | 32 | 7 | 0 | 0.3 | | USGS |
| Sept 18 1430 | 1,640 | 62 | 9.5 | 97 | 21.6 | 6.7* | 2.5 / 0.125 | 0.2 / 0.019 | 1.0 / 0.044 | 0.4 / 0.010 | 0 / 0.000 | 12 / 0.197 | 0.0 / 0.000 | 0.0 / 0.000 | 0.0 / 0.000 | 0.0 / 0.000 | 0.0 | 5.2 | Fe 0.01; Cu 0.01; Zn 0.01; $PO_4$ 0.00; (a) | 15[b] | 22 | 7 | 0 | 0.4 | | USGS |
| Oct 11 1530 | 141 | 62 | 10.0 | 102 | 28.4 | 6.9* | 2.7 / 0.18 | 0.5 / 0.04 | 1.2 / 0.05 | 0.7 / 0.02 | 0 / 0.00 | 14 / 0.23 | 0.4 / 0.01 | 0.3 / 0.01 | | | 0.01 | | | | 17 | 11 | 0 | 0.9 | | USGS |
| Nov 28 1445 | 156 | 62 | 10.5 | 107 | 36.2 | 6.9* | 4.8 / 0.24 | 0.6 / 0.05 | 1.3 / 0.06 | 0.7 / 0.02 | 0 / 0.00 | 19 / 0.31 | | 0.4 / 0.01 | | | 0.07 | | | | 16 | 14 | 0 | 1 | | USGS |
| Dec 28 1220 | 109 | 59 | 10.5 | 103 | 35.1 | 7.1* | 3.6 / 0.18 | 1.5 / 0.12 | 1.6 / 0.07 | 0.7 / 0.02 | 0 / 0.00 | 18 / 0.30 | | 1.0 / 0.03 | | | 0.03 | | | | 18 | 15 | 0 | 1 | median 1.9 minimum .13 maximum 620 | USGS |

* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Kings River Above North Fork** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1505 | 262 | 39 | 12.0 | 91 | 62.3 | 6.9 | 7.7 / 0.384 | 0.3 / 0.026 | 4.2 / 0.183 | 0.6 / 0.015 | 0 / 0.000 | 27 / 0.442 | | 3.0 / 0.085 | | | 0.22 | | | | 30 | 20 | 0 | | | USGS |
| Feb 9 1520 | 304 | 47 | 11.4 | 97 | 62.0 | 7.1 | 7.3 / 0.364 | 0.4 / 0.036 | 4.3 / 0.187 | 0.6 / 0.015 | 0 / 0.000 | 27 / 0.442 | | 2.5 / 0.071 | | | 0.01 | | | | 31 | 20 | 0 | 0.2 | | USGS |
| Mar 8 1245 | 548 | 50 | 10.4 | 94 | 57.8 | 7.2 | 7.2 / 0.359 | 1.0 / 0.081 | 3.9 / 0.170 | 0.8 / 0.020 | 0 / 0.000 | 25 / 0.410 | | 1.5 / 0.042 | | | 0.00 | | | | 27 | 22 | 2 | 0.6 | | USGS |
| Apr 12 1320 | 1,080 | 51 | 11.4 | 101 | 36.1 | 7.1 | 1.8 / 0.090 | 1.4 / 0.114 | 2.9 / 0.126 | 0.6 / 0.015 | 0 / 0.000 | 16 / 0.262 | | 1.5 / 0.042 | | | 0.00 | | | | 37 | 10 | 0 | 2 | | USGS |
| May 10 1245 | 2,100 | 56 | 10.0 | 95 | 30.6 | 7.2 | 3.6 / 0.180 | 0.2 / 0.020 | 2.2 / 0.096 | 0.5 / 0.013 | 0 / 0.000 | 16 / 0.262 | 1.7 / 0.035 | 1.0 / 0.028 | 0.2 / 0.003 | 0.2 / 0.011 | 0.03 | 9.9 | $PO_4$ 0.05 | 28[b] | 31 | 10 | 0 | 0.2 | | USGS |
| Jun 14 1245 | 3,830 | 55 | 10.3 | 96 | 20.4 | 7.0 | 3.4 / 0.170 | 0.1 / 0.010 | 1.2 / 0.052 | 0.4 / 0.010 | 0 / 0.000 | 10 / 0.164 | | 0.8 / 0.023 | | | 0.02 | | | | 21 | 9 | 1 | 1 | | USGS |
| Jul 13 1045 | 1,370 | 70 | 9.1 | 101 | 39.6 | 6.8 | 3.4 / 0.170 | 0.2 / 0.020 | 3.1 / 0.135 | 1.1 / 0.028 | 0 / 0.000 | 11 / 0.180 | | 1.8 / 0.051 | | | 0.00 | | | | 38 | 10 | 1 | 2 | | USGS |
| Aug 16 1450 | 363 | 74 | 8.3 | 96 | 40.9 | 7.2 | 5.1 / 0.254 | 0.2 / 0.016 | 2.4 / 0.104 | 0.7 / 0.018 | 0 / 0.000 | 19 / 0.311 | | 1.5 / 0.042 | | | 0.14 | | | | 27 | 14 | 0 | 0.3 | | USGS |
| Sep | Discontinued | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .56 minimum .045- maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Kings River at Piedra | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1325 | 85 | 46 | 10.9 | 91 | 162 | 7.3 | 17 / 0.848 | 5.4 / 0.442 | 10 / 0.435 | 1.7 / 0.043 | 0 / 0.000 | 79 / 1.295 | | 9.8 / 0.276 | | | 0.09 | | | | 25 | 64 | 0 | 35 | | USG |
| Feb 9 1635 | 224 | 49 | | | 87.6 | 7.6 | 8.9 / 0.444 | 2.1 / 0.176 | 5.3 / 0.230 | 1.0 / 0.026 | 0 / 0.000 | 40 / 0.656 | | 3.5 / 0.099 | | | 0.00 | | | | 26 | 31 | 0 | 2 | | USGS |
| Mar 8 1200 | 605 | 57 | 10.9 | 104 | 88.2 | 7.4 | 8.4 / 0.419 | 2.0 / 0.161 | 4.2 / 0.183 | 1.1 / 0.028 | 0 / 0.000 | 36 / 0.590 | | 3.0 / 0.085 | | | 0.06 | | | | 23 | 29 | 0 | 0.7 | | USGS |
| Apr 12 1100 | 1,640 | 51 | 13.0 | 116 | 59.3 | 6.8 | 4.2 / 0.210 | 2.3 / 0.190 | 3.7 / 0.161 | 1.0 / 0.026 | 0 / 0.000 | 28 / 0.459 | | 2.0 / 0.056 | | | 0.04 | | | | 27 | 20 | 0 | 1 | | USGS |
| May 10 1030 | 727 | 61 | 10.0 | 101 | 46.9 | 7.2 | 2.5 / 0.125 | 2.2 / 0.179 | 3.2 / 0.139 | 0.8 / 0.020 | 0 / 0.000 | 24 / 0.393 | 2.3 / 0.048 | 0.8 / 0.023 | 0.2 / 0.003 | 0.1 / 0.005 | 0.01 | 14 | (a) $PO_4$ 0.10 | 38[b] | 30 | 15 | 0 | 2 | | USGS |
| Jun 14 1045 | 5,280 | 55 | 11.1 | 104 | 27.6 | 7.8 | 2.5 / 0.125 | 1.0 / 0.085 | 1.4 / 0.061 | 0.4 / 0.010 | 0 / 0.000 | 13 / 0.213 | | 0.8 / 0.023 | | | 0.05 | | | | 22 | 10 | 0 | 1 | | USGS |
| Jul 13 0900 | 3,840 | 70 | 9.8 | 109 | 35.6 | 6.8 | 2.8 / 0.140 | 0.4 / 0.030 | 3.4 / 0.148 | 1.4 / 0.036 | 0 / 0.000 | 9 / 0.147 | | 1.2 / 0.034 | | | 0.02 | | | | 42 | 8 | 1 | 3. | | USGS |
| Aug 16 1305 | 2,400 | 53 | 11.5 | 105 | 51.8 | 7.2 | 6.0 / 0.299 | 0.7 / 0.061 | 3.2 / 0.139 | 0.8 / 0.020 | 0 / 0.000 | 26 / 0.426 | | 1.0 / 0.028 | | | 0.07 | | | | 27 | 18 | 0 | 0.8 | | USGS |
| Sep | Discontinued | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2.3 minimum .06 maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | | | | | Lindsey Slough near Rio Vista | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 21 1245 | | 46 | 10.3 | 86 | 334 | 7.5 | 19 / 0.948 | 15 / 1.232 | 25 / 1.087 | 1.8 / 0.046 | 0 / 0.000 | 119 / 1.950 | | 27 / 0.761 | | | 0.41 | | | | 33 | 109 | 11 | 35 | | USGS |
| Feb 14 1300 | | 51 | 10.1 | 90 | 338 | 7.4 | 20 / 0.998 | 16 / 1.282 | 27 / 1.174 | 1.5 / 0.038 | 0 / 0.000 | 124 / 2.032 | | 25 / 0.705 | | | 0.20 | | | | 34 | 114 | 12 | 20 | | USGS |
| Mar 14 1340 | | 54 | 9.5 | 88 | 311 | 7.7 | 18 / 0.898 | 15 / 1.262 | 24 / 1.044 | 2.9 / 0.074 | 0 / 0.000 | 118 / 1.934 | | 24 / 0.677 | | | 0.18 | | | | 32 | 108 | 11 | 40 | | USGS |
| Apr 18 1230 | | 58 | 9.0 | 87 | 202 | 7.4 | 14 / 0.699 | 8.8 / 0.721 | 13 / 0.565 | 1.5 / 0.038 | 0 / 0.000 | 89 / 1.459 | | 12 / 0.338 | | | 0.11 | | | | 28 | 71 | 0 | 30 | | USGS |
| May 16 1350 | | 68 | 9.4 | 102 | 187 | 7.7 | 13 / 0.649 | 8.6 / 0.711 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 78 / 1.278 | 15 / 0.312 | 12 / 0.338 | 0.7 / 0.011 | 0.1 / 0.005 | 0.05 | 20 | Fe 0.05; Al 0.07; Zn 0.01; Cu 0.01; (a) $PO_4$ 0.15 | 121[b] | 27 | 68 | 4 | 25 | | USGS |
| Jun 20 1315 | | 71 | 8.7 | 97 | 175 | 7.6 | 11 / 0.549 | 7.7 / 0.631 | 13 / 0.565 | 1.2 / 0.031 | 0 / 0.000 | 76 / 1.246 | | 11 / 0.310 | | | 0.12 | | | | 32 | 59 | 0 | 60 | | USGS |
| Jul 20 1000 | | 70 | 8.1 | 90 | 230 | 7.2 | 15 / 0.749 | 9.4 / 0.771 | 20 / 0.870 | 2.2 / 0.056 | 0 / 0.000 | 91 / 1.491 | | 13 / 0.367 | | | 0.12 | | | | 36 | 76 | 1 | 70 | | USGS |
| Aug 25 1500 | | 72 | 8.1 | 92 | 230 | 7.5 | 15 / 0.749 | 9.1 / 0.751 | 18 / 0.783 | 1.6 / 0.041 | 0 / 0.000 | 101 / 1.655 | | 14 / 0.395 | | | 0.09 | | | | 34 | 75 | 0 | 40 | | USGS |
| Sep 23 0935 | | 63 | 6.7 | 69 | 349 | 7.5 | 20 / 0.998 | 15 / 1.202 | 29 / 1.261 | 1.9 / 0.049 | 0 / 0.000 | 138 / 2.262 | 24 / 0.500 | 16 / 0.733 | 0.6 / 0.010 | 0.3 / 0.016 | 0.25 | 24 | Fe 0.10; Al 0.03; (a) | 209[b] | 36 | | | | | USGS |
| Oct 20 1030 | | 62 | 7.3 | 74 | 236 | 7.3 | 15 / 0.748 | 10 / 0.852 | 17 / 0.740 | 1.9 / 0.049 | 0 / 0.000 | 104 / 1.705 | | 14 / 0.395 | | | 0.15 | | | | 31 | 80 | 0 | 45 | | USGS |
| Nov 23 1305 | | 48 | 9.1 | 78 | 212 | 7.6 | 15 / 0.748 | 8.4 / 0.692 | 15 / 0.652 | 2.0 / 0.051 | 0 / 0.000 | 97 / 1.590 | | 12 / 0.338 | | | 0.09 | | | | 30 | 72 | 0 | 160 | | USGS |
| Dec 22 1000 | | 53 | 8.8 | 80 | 205 | 7.3 | 12 / 0.599 | 10 / 0.841 | 15 / 0.652 | 2.3 / 0.084 | 0 / 0.000 | 77 / 1.262 | | 12 / 0.338 | | | 0.16 | | | | 30 | 72 | 9 | 700 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Lindsey Slough near Rio Vista** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 0950 | | 49 | 9.1 | 79 | 342 | 7.3 | 21 / 1.048 | 17 / 1.436 | 23 / 1.000 | 1.9 / 0.049 | 0 / 0.000 | 145 / 2.377 | | 15 / 0.423 | | | 0.42 | | | | 28 | 124 | 5 | 180 | | USGS |
| Feb 17 0955 | | 44 | 10.8 | 88 | 377 | 7.7 | 24 / 1.198 | 19 / 1.574 | 25 / 1.088 | 2.1 / 0.054 | 0 / 0.000 | 160 / 2.622 | | 18 / 0.508 | | | 0.48 | | | | 28 | 139 | 8 | 160 | | USGS |
| Mar 22 1000 | | 54 | 9.9 | 92 | 356 | 7.7 | 24 / 1.198 | 19 / 1.562 | 22 / 0.957 | 1.8 / 0.046 | 0 / 0.000 | 158 / 2.590 | | 16 / 0.451 | | | 0.40 | | | | 25 | 138 | 8 | 75 | | USGS |
| Apr 18 1330 | | 57 | 9.5 | 91 | 279 | 7.5 | 17 / 0.848 | 15 / 1.244 | 18 / 0.783 | 1.4 / 0.036 | 0 / 0.000 | 121 / 1.983 | | 15 / 0.423 | | | 0.23 | | | | 27 | 105 | 6 | 40 | | USGS |
| May 16 1220 | | 69 | 9.0 | 99 | 252 | 7.5 | 16 / 0.798 | 12 / 1.012 | 19 / 0.826 | 1.9 / 0.049 | 0 / 0.000 | 109 / 1.787 | 24 / 0.500 | 13 / 0.367 | 1.1 / 0.018 | 0.4 / 0.021 | 0.18 | 17 | Fe 0.15; Al 0.12; Cr+6 0.02; Cu 0.01; Zn 0.01; $PO_4$ 0.20; (a) | 159[b] | 31 | 90 | 1 | 50 | | USGS |
| June 21 1010 | | 70 | 8.0 | 89 | 164 | 7.5 | 11 / 0.549 | 7.2 / 0.591 | 12 / 0.522 | 1.5 / 0.038 | 0 / 0.000 | 76 / 1.246 | | 8.0 / 0.226 | | | 0.12 | | | | 31 | 57 | 0 | | | USGS |
| July 23 1115 | | 78 | 8.3 | 100 | 175 | 7.0 | 12 / 0.599 | 7.7 / 0.633 | 13 / 0.566 | 1.4 / 0.036 | 0 / 0.000 | 82 / 1.344 | | 8.4 / 0.237 | | | 0.16 | | | | 31 | 62 | 0 | 55 | | USGS |
| Aug 22 1230 | | 74 | 9.0 | 104 | 192 | 7.5 | 14 / 0.699 | 6.5 / 0.533 | 14 / 0.609 | 1.4 / 0.036 | 0 / 0.000 | 84 / 1.377 | | 0.11 / 0.231 | | | 0.11 | | | | 32 | 62 | 0 | 50 | | USGS |
| Sept 12 1000 | | 68 | 8.5 | 93 | 219 | 7.0 | 15 / 0.748 | 8.8 / 0.724 | 17 / 0.740 | 1.4 / 0.036 | 0 / 0.000 | 102 / 1.672 | 13 / 0.271 | 12 / 0.338 | 1.0 / 0.016 | 0.0 / 0.000 | 0.06 | 21 | Fe 0.03; Al 0.12; Zn 0.01; $PO_4$ 0.25; Cu 0.01; (a) | 139[b] | 33 | 74 | 0 | 40 | | USGS |
| Oct 15 1200 | | 66 | 8.0 | 85 | 180 | 7.0 | 13 / 0.649 | 8.0 / 0.655 | 12 / 0.522 | 1.6 / 0.041 | 0 / 0.000 | 89 / 1.459 | | 8.9 / 0.248 | | | 0.08 | | | | 28 | 65 | 0 | 120 | | USGS |
| Nov 21 1120 | | 49 | 9.0 | 86 | 177 | 7.0 | 14 / 0.70 | 7.0 / 0.65 | 10 / 0.44 | 1.8 / 0.05 | 0 / 0.00 | 87 / 1.43 | | 8.0 / 0.23 | | | 0.12 | | | | 24 | 67 | 0 | 400 | | USGS |
| Dec 19 1245 | | 48 | 10.8 | 93 | 170 | 7.3 | 12 / 0.60 | 8.3 / 0.68 | 11 / 0.48 | 1.3 / 0.03 | 0 / 0.00 | 84 / 1.38 | | 6.0 / 0.17 | | | 0.04 | | | | 27 | 64 | 0 | 75 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyze by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | **Tidal Area** | | | | | | | | | | **Little Potato Slough at Terminous** | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1020 | | 43 | 10.2 | 81 | 214 | 7.0 | 16 / 0.798 | 7.3 / 0.602 | 13 / 0.565 | 1.6 / 0.041 | 0 / 0.000 | 56 / 0.918 | 13 / 0.271 | 28 / 0.790 | 4.2 / 0.068 | 0.2 / 0.011 | 0.05 | 17 | Fe 0.20 | 128[b] | 28 | 70 | 24 | 40 | | USGS |
| Feb 14 1400 | | 50 | 9.4 | 83 | 295 | 7.2 | 21 / 1.048 | 12 / 0.952 | 19 / 0.826 | 1.5 / 0.038 | 0 / 0.000 | 78 / 1.278 | 19 / 0.396 | 38 / 1.072 | 2.8 / 0.045 | 0.3 / 0.016 | 0.02 | 16 | Fe 0.10 | 168[b] | 29 | 100 | 36 | 15 | | USGS |
| Mar 17 1430 | | 55 | 9.6 | 90 | 233 | 7.3 | 17 / 0.848 | 8.7 / 0.712 | 15 / 0.652 | 1.3 / 0.033 | 0 / 0.000 | 78 / 1.278 | 11 / 0.229 | 26 / 0.733 | 0.9 / 0.015 | 0.2 / 0.011 | 0.07 | 18 | Fe 0.07 | 136[b] | 29 | 78 | 14 | 10 | | USGS |
| Apr 18 1320 | | 58 | 8.6 | 84 | 186 | 7.3 | 15 / 0.749 | 6.7 / 0.551 | 12 / 0.522 | 1.4 / 0.036 | 0 / 0.000 | 80 / 1.311 | 9.2 / 0.192 | 13 / 0.367 | 0.9 / 0.015 | 0.1 / 0.005 | 0.10 | 21 | Fe 0.04 | 118[b] | 28 | 65 | 0 | | | USGS |
| May 16 1550 | | 65 | 8.5 | 90 | 156 | 7.3 | 12 / 0.599 | 5.4 / 0.441 | 9.9 / 0.430 | 1.1 / 0.028 | 0 / 0.000 | 58 / 0.951 | 7.7 / 0.160 | 14 / 0.395 | 0.8 / 0.013 | 0.1 / 0.005 | 0.08 | 19 | Al 0.1; (a) $PO_4$ 0.15 | 99[b] | 29 | 52 | 4 | 30 | | USGS |
| Jun 23 1120 | | 68 | 8.2 | 89 | 231 | 7.4 | 14 / 0.699 | 8.8 / 0.721 | 18 / 0.783 | 1.3 / 0.003 | 0 / 0.000 | 81 / 1.327 | 16 / 0.333 | 21 / 0.592 | 0.9 / 0.015 | 0.2 / 0.011 | 0.07 | 19 | Fe 0.09 | 139[b] | 35 | 71 | 5 | 15 | | USGS |
| Jul 18 1330 | | 74 | 6.9 | 80 | 288 | 7.4 | 19 / 0.948 | 11 / 0.892 | 23 / 1.000 | 1.8 / 0.046 | 0 / 0.000 | 97 / 1.590 | 14 / 0.291 | 32 / 0.903 | 0.7 / 0.011 | 0.0 / 0.000 | 0.10 | 22 | Fe 0.13 | 172[b] | 35 | 92 | 12 | 15 | | USGS |
| Aug 25 1230 | | 74 | 7.0 | 81 | 236 | 7.3 | 16 / 0.798 | 8.3 / 0.682 | 18 / 0.783 | 1.5 / 0.038 | 0 / 0.000 | 102 / 1.672 | 12 / 0.250 | 15 / 0.423 | 0.5 / 0.008 | 0.1 / 0.005 | 0.14 | 22 | Fe 0.00 | 144[b] | 34 | 74 | 0 | 6 | | USGS |
| Sep 21 0800 | | 65 | 6.1 | 65 | 303 | 7.4 | 19 / 0.948 | 12 / 0.972 | 24 / 1.044 | 1.8 / 0.046 | 0 / 0.000 | 127 / 2.081 | 15 / 0.312 | 22 / 0.620 | 0.6 / 0.010 | 0.2 / 0.011 | 0.08 | 24 | Fe 0.03; Al 0.24; Cu 0.01; $PO_4$ 0.20; (a) | 182[b] | 35 | 96 | 0 | 15 | | USGS |
| Oct 18 0845 | | 60 | 7.8 | 78 | 254 | 7.3 | 16 / 0.798 | 11 / 0.882 | 18 / 0.783 | 1.7 / 0.043 | 0 / 0.000 | 94 / 1.541 | 10 / 0.208 | 25 / 0.705 | 1.1 / 0.018 | 0.3 / 0.016 | 0.03 | 25 | Fe 0.02 | 154[b] | 31 | 84 | 7 | 15 | | USGS |
| Nov 21 1330 | | 50 | 8.3 | 73 | 252 | 7.1 | 18 / 0.898 | 9.0 / 0.742 | 17 / 0.740 | 1.8 / 0.046 | 0 / 0.000 | 87 / 1.426 | 13 / 0.271 | 26 / 0.733 | 2.7 / 0.044 | 0.3 / 0.016 | 0.00 | 23 | Fe 0.03 | 154[b] | 30 | 82 | 11 | 10 | | USGS |
| Dec 20 0850 | | 49 | 10.0 | 87 | 244 | 7.3 | 17 / 0.848 | 9.1 / 0.748 | 17 / 0.740 | 1.6 / 0.041 | 0 / 0.000 | 72 / 1.180 | 21 / 0.437 | 24 / 0.677 | 5.9 / 0.095 | 0.5 / 0.026 | 0.05 | 21 | Fe 0.09 | 152[b] | 31 | 80 | 21 | 30 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Little Potato Slough at Terminous | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 0845 | | 48 | 8.3 | 72 | 188 | 6.9 | 14 / 0.699 | 7.1 / 0.581 | 9.9 / 0.431 | 1.9 / 0.049 | 0 / 0.000 | 44 / 0.721 | 17 / 0.354 | 20 / 0.564 | 7.8 / 0.126 | 0.4 / 0.021 | 0.14 | 16 | | 116[b] | 24 | 64 | 28 | 45 | | USGS |
| Feb 15 0830 | | 45 | 10.5 | 87 | 223 | 7.3 | 17 / 0.848 | 8.2 / 0.672 | 13 / 0.566 | 1.3 / 0.033 | 0 / 0.000 | 64 / 1.049 | 17 / 0.354 | 23 / 0.649 | 2.7 / 0.044 | 0.3 / 0.016 | 0.07 | 19 | | 134[b] | 27 | 76 | 24 | 40 | | USGS |
| Mar 19 1415 | | 52 | 10.4 | 94 | 167 | 7.1 | 8.8 / 0.439 | 8.3 / 0.681 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 56 / 0.918 | 9 / 0.187 | 19 / 0.536 | 0.40 / 0.006 | 0.4 / 0.021 | 0.05 | 16 | | 102[b] | 29 | 56 | 10 | 31 | | USGS |
| Apr 16 1400 | | 51 | 10.3 | 92 | 140 | 7.3 | 9.7 / 0.484 | 5.4 / 0.440 | 8.7 / 0.378 | 1.1 / 0.028 | 0 / 0.000 | 44 / 0.721 | 4.0 / 0.083 | 19 / 0.536 | 0.3 / 0.005 | 0.3 / 0.016 | 0.01 | 12 | | 83[b] | 28 | 46 | 10 | 10 | | USGS |
| May 14 1320 | | 58 | 10.0 | 97 | 90.6 | 7.1 | 5.2 / 0.259 | 4.9 / 0.401 | 5.5 / 0.239 | 0.9 / 0.023 | 0 / 0.000 | 33 / 0.541 | 4.2 / 0.087 | 10 / 0.282 | 0.4 / 0.006 | 0.4 / 0.021 | 0.00 | 14 | Fe 0.10; Al 0.05; $Cr^{+6}$ 0.01; As 0.01; (a) $PO_4$ 0.00 | 62[b] | 26 | 33 | 6 | 30 | | USGS |
| June 19 1930 | | 67 | 8.0 | 86 | 99.6 | 7.1 | 7.4 / 0.369 | 3.1 / 0.259 | 6.8 / 0.296 | 1.0 / 0.026 | 0 / 0.000 | 35 / 0.574 | 2.4 / 0.050 | 12 / 0.338 | 0.8 / 0.013 | 0.3 / 0.016 | 0.00 | 15 | Fe 0.13 (a) | 66[b] | 31 | 31 | 2 | 30 | | USGS |
| July 23 1300 | | 77 | 6.3 | 75 | 215 | 6.8 | 15 / 0.748 | 8.2 / 0.672 | 16 / 0.696 | 1.3 / 0.033 | 0 / 0.000 | 74 / 1.213 | 11 / 0.229 | 26 / 0.733 | 0.9 / 0.015 | 0.1 / 0.005 | 0.06 | 15 | | 130[b] | 32 | 71 | 10 | 15 | | USGS |
| Aug 20 1440 | | 73 | 8.6 | 99 | 207 | 7.3 | 14 / 0.699 | 7.6 / 0.625 | 16 / 0.696 | 1.1 / 0.028 | 0 / 0.000 | 81 / 1.328 | 9.2 / 0.192 | 20 / 0.564 | 1.0 / 0.016 | 0.3 / 0.016 | 0.06 | 17 | | 125[b] | 34 | 66 | 0 | 10 | | USGS |
| Sept 12 1200 | | 69 | 8.5 | 94 | 221 | 7.0 | 16 / 0.793 | 8.2 / 0.678 | 17 / 0.740 | 1.5 / 0.038 | 0 / 0.000 | 93 / 1.524 | 13 / 0.271 | 16 / 0.451 | 1.2 / 0.019 | 0.1 / 0.005 | 0.07 | 17 | Fe 0.02; Al 0.04; Cu 0.01; $PO_4$ 0.15; (a) | 136[b] | 33 | 74 | 0 | 10 | | USGS |
| Oct 15 1345 | | 68 | 8.3 | 91 | 213 | 6.8 | 15 / 0.749 | 8.4 / 0.691 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 77 / 1.262 | 6.7 / 0.139 | 26 / 0.733 | 1.0 / 0.016 | 0.0 / 0.000 | 0.10 | 20 | Fe 0.02; (a) | 132[b] | 31 | 72 | 9 | | | USGS |
| Nov 19 1345 | | 50 | 9.5 | 84 | 165 | 7.3 | 12 / 0.60 | 6.3 / 0.52 | 10 / 0.44 | 1.3 / 0.03 | 0 / 0.00 | 58 / 0.95 | 6.7 / 0.14 | 16 / 0.45 | 1.1 / 0.02 | 0.2 / 0.01 | 0.12 | 17 | Fe 0.03; (a) | 100[b] | 28 | 56 | 8 | 20 | | USGS |
| Dec 14 1025 | | 48 | 9.8 | 85 | 190 | 6.9 | 12 / 0.60 | 7.5 / 0.62 | 13 / 0.57 | 1.0 / 0.03 | 0 / 0.00 | 52 / 0.85 | 5.8 / 0.12 | 28 / 0.79 | 2.2 / 0.04 | 0.2 / 0.01 | 0.02 | 15 | Fe 0.15; (a) | 111[b] | 31 | 61 | 18 | 15 | median 56 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | McCloud River Above Shasta Lake | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 16 1500 | 1,780 | 55 | 10.8 | 102 | 92.7 | 7.5 | 11 / 0.549 | 2.6 / 0.211 | 4.0 / 0.174 | 0.9 / 0.023 | 0 / 0.000 | 57 / 0.934 | 2.3 / 0.048 | 1.0 / 0.028 | 0.2 / 0.003 | 0.0 / 0.000 | 0.02 | 27 | Fe 0.005; (a) $PO_4$ 0.10 | 77[b] | 18 | 38 | 0 | 0.4 | | USGS |
| Jun 22 0930 | 1,150 | 52 | 10.7 | 96 | 97.4 | 7.6 | 10 / 0.499 | 3.2 / 0.261 | 4.8 / 0.209 | 1.2 / 0.031 | 0 / 0.000 | 59 / 0.967 | | 1.0 / 0.028 | | | 0.01 | | | | 21 | 38 | 0 | 2 | | USGS |
| Jul 13 1400 | 1,000 | 56 | 9.2 | 87 | 97.4 | 8.0 | 9.3 / 0.464 | 3.8 / 0.316 | 5.1 / 0.222 | 1.4 / 0.036 | 0 / 0.000 | 61 / 1.000 | | 1.2 / 0.034 | | | 0.02 | | | | 21 | 39 | 0 | 0.6 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 13 1350 | 916 | 54 | 10.5 | 98 | 96.5 | 7.7 | 11 / 0.549 | 2.1 / 0.171 | 4.6 / 0.200 | 1.5 / 0.038 | 0 / 0.000 | 57 / 0.934 | 1.6 / 0.033 | 0.9 / 0.025 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 33 | Al 0.05; Cu 0.01; Zn 0.01; (a) | 83[b] | 21 | 36 | 0 | 0 | | USGS |
| Oct | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 21 1400 | 1,580 | 46 | 11.5 | 96 | 87.0 | 7.4 | 9.6 / 0.479 | 2.7 / 0.221 | 4.4 / 0.191 | 1.2 / 0.031 | 0 / 0.000 | 50 / 0.820 | | 1.5 / 0.042 | | | 0.00 | | | | 21 | 35 | 0 | 50 | | USGS |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .42 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 50 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | McCloud River above Shasta Lake | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 11 1400 | 2,360 | 48 | 11.3 | 97 | 82.0 | 7.6 | 9.2 / 0.459 | 2.9 / 0.241 | 3.7 / 0.161 | 0.9 / 0.023 | 0 / 0.000 | 55 / 0.901 | | 0.4 / 0.011 | | | 0.03 | | | | 18 | 35 | 0 | 2 | | USGS |
| May 15 1100 | 2,220 | 52 | 11.1 | 100 | 82.7 | 7.5 | 10 / 0.499 | 3.2 / 0.261 | 3.5 / 0.152 | 1.1 / 0.028 | 0 / 0.000 | 52 / 0.852 | 2.0 / 0.042 | 0.8 / 0.023 | 0.3 / 0.005 | 0.1 / 0.005 | 0.00 | 22 | Fe 0.02; Al 0.02; Cu 0.01, $PO_4$ 0.05 (a) | 69[b] | 16 | 38 | 0 | 1 | | USGS |
| June 13 1100 | 1,670 | 52 | 10.5 | 93 | 86.2 | 7.5 | 8.8 / 0.439 | 3.2 / 0.261 | 3.9 / 0.170 | 1.2 / 0.031 | 0 / 0.000 | 54 / 0.885 | | 1.0 / 0.028 | | | 0.03 | | | | 19 | 35 | 0 | 3 | | USGS |
| July | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 6.2 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.00/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Merced River below Exchequer Dam** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 0910 | 51 | 44 | 10.9 | 89 | 130 | 7.1 | 15 / 0.749 | 3.9 / 0.321 | 4.6 / 0.200 | 1.5 / 0.038 | 0 / 0.000 | 58 / 0.951 | | 4.8 / 0.135 | | | 0.00 | | | | 15 | 54 | 6 | 400 | | USGS |
| Feb 11 1100 | 52 | 48 | 11.7 | 100 | 136 | 7.3 | 16 / 0.798 | 4.5 / 0.372 | 5.6 / 0.244 | 1.0 / 0.026 | 0 / 0.000 | 63 / 1.032 | | 5.0 / 0.141 | | | 0.01 | | | | 17 | 58 | 6 | 3 | | USGS |
| Mar 11 0930 | 51 | 50 | 11.2 | 99 | 132 | 7.3 | 16 / 0.798 | 4.2 / 0.342 | 4.3 / 0.187 | 1.1 / 0.028 | 0 / 0.000 | 60 / 0.983 | | 4.0 / 0.113 | | | 0.00 | | | | 14 | 57 | 8 | 4 | | USGS |
| Apr 14 1200 | 1,500 | 54 | 11.1 | 103 | 70.1 | 7.2 | 5.4 / 0.269 | 3.2 / 0.263 | 3.2 / 0.139 | 0.7 / 0.018 | 0 / 0.000 | 34 / 0.557 | | 2.8 / 0.079 | | | 0.01 | | | | 20 | 27 | 0 | 3 | | USGS |
| May 12 1000 | 530 | 52 | 9.7 | 88 | 53.7 | 7.2 | 3.9 / 0.195 | 2.7 / 0.221 | 2.6 / 0.113 | 0.5 / 0.013 | 0 / 0.000 | 28 / 0.459 | 2.8 / 0.058 | 0.8 / 0.023 | 0.1 / 0.002 | 0.1 / 0.005 | 0.02 | 16 | Mn 0.02; (a) $FO_4$ 0.05 | 44[b] | 21 | 21 | 0 | 7 | | USGS |
| Jun 16 1110 | 1,770 | 55 | 9.7 | 91 | 33.3 | 6.9 | 4.5 / 0.225 | 0.1 / 0.005 | 2.1 / 0.091 | 0.6 / 0.015 | 0 / 0.000 | 18 / 0.295 | | 1.2 / 0.034 | | | 0.02 | | | | 27 | 12 | 0 | 0.8 | | USGS |
| Jul 12 1130 | 1,760 | 67 | 9.3 | 100 | 38.8 | 6.7 | 3.4 / 0.170 | 0.6 / 0.050 | 2.9 / 0.126 | 0.9 / 0.023 | 0 / 0.000 | 9 / 0.147 | | 0.8 / 0.023 | | | 0.03 | | | | 34 | 11 | 4 | 4 | | USGS |
| Aug 18 1330 | 1,630 | 66 | 8.4 | 90 | 28.3 | 7.0 | 3.4 / 0.170 | 0.4 / 0.030 | 2.5 / 0.109 | 0.5 / 0.013 | 0 / 0.000 | 15 / 0.246 | | 0.0 / 0.000 | | | 0.00 | | | | 34 | 10 | 0 | 0.3 | | USGS |
| Sep 15 1440 | 58 | 75 | 6.5 | 76 | 122 | 7.3 | 17 / 0.849 | 3.3 / 0.268 | 3.4 / 0.148 | 1.1 / 0.028 | 0 / 0.000 | 66 / 1.082 | 5.8 / 0.121 | 1.8 / 0.051 | 0.9 / 0.015 | 0.2 / 0.011 | 0.04 | 10 | Fe 0.05; Cu 0.01; (a) | 77[b] | 11 | 56 | 2 | 40 | | USGS |
| Oct 12 1440 | 50 | 68 | 7.8 | 85 | 204 | 7.5 | 27 / 1.347 | 5.5 / 0.449 | 5.5 / 0.239 | 1.9 / 0.049 | 0 / 0.000 | 104 / 1.705 | | 5.2 / 0.147 | | | 0.02 | | | | 11 | 90 | 5 | 25 | | USGS |
| Nov 17 0955 | 45 | 48 | 9.5 | 82 | 207 | 7.3 | 29 / 1.447 | 4.5 / 0.373 | 6.2 / 0.270 | 1.9 / 0.049 | 0 / 0.000 | 110 / 1.803 | | 7.0 / 0.197 | | | 0.02 | | | | 13 | 91 | 1 | 190 | | USGS |
| Dec 14 1600 | 52 | 48 | 10.2 | 88 | 181 | 7.3 | 24 / 1.199 | 4.7 / 0.390 | 5.3 / 0.231 | 1.6 / 0.041 | 0 / 0.000 | 82 / 1.344 | | 4.8 / 0.135 | | | 0.02 | | | | 12 | 79 | 12 | 20 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 minimum .21 maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Merced River below Exchequer Dam | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0820 | 1,520 | 44 | 10.6 | 86 | 68.3 | 7.1 | 7.8 / 0.389 | 1.8 / 0.151 | 2.8 / 0.122 | 1.1 / 0.028 | 0 / 0.000 | 33 / 0.541 | | 1.2 / 0.034 | | | 0.05 | | | | 18 | 27 | 0 | 45 | | USGS |
| Feb 8 1400 | 1,540 | 44 | 11.2 | 91 | 76.1 | 7.5 | 9.4 / 0.469 | 1.6 / 0.131 | 2.8 / 0.122 | 0.9 / 0.023 | 0 / 0.000 | 38 / 0.623 | | 0.0 / 0.000 | | | 0.01 | | | | 16 | 30 | 0 | 40 | | USGS |
| Mar 15 0845 | 1,560 | 45 | 10.7 | 88 | 72.0 | 7.1 | 8.2 / 0.409 | 2.6 / 0.211 | 2.3 / 0.100 | 1.0 / 0.026 | 0 / 0.000 | 37 / 0.606 | | 1.2 / 0.034 | | | 0.02 | | | | 13 | 31 | 1 | 15 | | USGS |
| Apr 12 0900 | 1,610 | 47 | 9.7 | 82 | 67.5 | 7.1 | 8.5 / 0.424 | 1.4 / 0.116 | 2.5 / 0.109 | 1.1 / 0.028 | 0 / 0.000 | 40 / 0.656 | | 0.0 / 0.000 | | | 0.01 | | | | 16 | 27 | 0 | 13 | | USGS |
| May 7 1320 | 3,790 | 53 | 11.4 | 104 | 52.4 | 7.1 | 6.0 / 0.299 | 2.0 / 0.162 | 2.1 / 0.091 | 0.9 / 0.023 | 0 / 0.000 | 31 / 0.508 | 1.0 / 0.021 | 1.0 / 0.028 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 9.1 | Fe 0.02; Cu 0.01; Zn 0.01; $PO_4$ 0.05; (a) | 37[b] | 16 | 23 | 0 | 3 | | USGS |
| June 14 0820 | 5,100 | 58 | 11.4 | 111 | 23.7 | 7.0 | 3.6 / 0.180 | 0.2 / 0.016 | 1.0 / 0.044 | 0.5 / 0.013 | 0 / 0.000 | 17 / 0.279 | | 0.0 / 0.000 | | | 0.04 | | | | 17 | 10 | 0 | 5 | | USGS |
| July 19 0920 | 1,800 | 56 | 10.6 | 101 | 22.9 | 6.8 | 3.2 / 0.160 | 0.2 / 0.016 | 1.0 / 0.044 | 0.5 / 0.013 | 0 / 0.000 | 16 / 0.262 | | 0.0 / 0.000 | | | 0.06 | | | | 19 | 9 | 0 | 3 | | USGS |
| Aug 16 0920 | 1,540 | 58 | 9.2 | 90 | 21.0 | 6.8 | 2.4 / 0.120 | 0.4 / 0.030 | 1.0 / 0.044 | 0.5 / 0.013 | 0 / 0.000 | 12 / 0.197 | | 0.2 / 0.005 | | | 0.00 | | | | 21 | 3 | 0 | 0.3 | | USGS |
| Sept 19 1140 | 1,210 | 65 | 5.5 | 58 | 27.1 | 6.8 | 4.0 / 0.200 | 0.2 / 0.020 | 1.5 / 0.065 | 0.6 / 0.015 | 0 / 0.000 | 18 / 0.295 | 0.0 / 0.000 | 0.0 / 0.000 | 0.4 / 0.006 | 0.0 / 0.000 | 0.00 | 5.9 | Cu 0.01; (a) | 22[b] | 22 | 11 | 0 | 0.3 | | USGS |
| Oct 10 1245 | 1,080 | 68 | 3.8 | 41.5 | 32.4 | 6.8 | 4.4 / 0.22 | 0.5 / 0.04 | 1.2 / 0.05 | 0.7 / 0.02 | 0 / 0.00 | 16 / 0.26 | | 0.4 / 0.01 | | | 0.01 | | | | 15 | 13 | 0 | 3 | | USGS |
| Nov 15 1315 | 38 | 60 | 9.7 | 97 | 64.7 | 7.3 | 7.6 / 0.38 | 1.3 / 0.11 | 1.9 / 0.08 | 0.8 / 0.02 | 0 / 0.00 | 34 / 0.56 | | 1.8 / 0.05 | | | 0.05 | | | | 14 | 25 | 0 | 20 | | USGS |
| Dec 12 1430 | 38 | 56 | 10.7 | 101 | 66.1 | 7.3 | 8.0 / 0.40 | 1.7 / 0.14 | 2.3 / 0.10 | 0.8 / 0.02 | 0 / 0.00 | 32 / 0.52 | | 1.0 / 0.03 | | | 0.05 | | | | 15 | 27 | 1 | 10 | median 6.2 minimum .13 maximum 230 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH); Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Merced River near Stevinson** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1345 | 246 | 48 | 10.3 | 89 | 218 | 7.3 | 17 / 0.848 | 6.0 / 0.492 | 19 / 0.826 | 2.7 / 0.069 | 0 / 0.000 | 104 / 1.704 | | 9.0 / 0.254 | | | 0.15 | | | | 37 | 67 | 0 | 60 | | USGS |
| Feb 8 1410 | 174 | 55 | 10.3 | 97 | 279 | 7.6 | 21 / 1.048 | 7.0 / 0.572 | 29 / 1.261 | 2.3 / 0.059 | 0 / 0.000 | 127 / 2.081 | | 16 / 0.451 | | | 0.00 | | | | 43 | 81 | 0 | 6 | | USGS |
| Mar 10 1450 | 157 | 64 | 9.8 | 101 | 276 | 7.8 | 20 / 0.998 | 6.8 / 0.562 | 28 / 1.218 | 2.5 / 0.064 | 0 / 0.000 | 124 / 2.032 | | 16 / 0.451 | | | 0.15 | | | | 43 | 78 | 0 | 8 | | USGS |
| Apr 14 1040 | 149 | 61 | 10.0 | 100 | 234 | 7.4 | 14 / 0.699 | 8.0 / 0.661 | 24 / 1.044 | 1.9 / 0.049 | 0 / 0.000 | 110 / 1.803 | | 17 / 0.479 | | | 0.12 | | | | 43 | 68 | 0 | 2 | | USGS |
| May 18 0930 | 118 | 69 | 9.1 | 100 | 235 | 7.9 | 20 / 0.998 | 6.3 / 0.522 | 30 / 1.305 | 2.2 / 0.056 | 0 / 0.000 | 132 / 2.163 | 6.5 / 0.135 | 22 / 0.620 | 2.8 / 0.045 | 0.0 / 0.000 | 0.04 | 31 | Al 0.02; (a) $PO_4$ 0.25 | 186[b] | 45 | 76 | 0 | 3 | | USGS |
| Jun 16 0910 | 102 | 67 | 8.2 | 88 | 261 | 7.4 | 19 / 0.948 | 7.4 / 0.612 | 29 / 1.261 | 1.9 / 0.049 | 0 / 0.000 | 112 / 1.836 | | 22 / 0.620 | | | 0.03 | | | | 44 | 78 | 0 | 3 | | USGS |
| Jul 12 1300 | 91 | 83 | 8.7 | 110 | 300 | 7.1 | 17 / 0.848 | 6.2 / 0.512 | 36 / 1.565 | 1.7 / 0.043 | 0 / 0.000 | 100 / 1.639 | | 38 / 1.072 | | | 0.11 | | | | 53 | 68 | 0 | 2 | | USGS |
| Aug 15 1415 | 129 | 79 | 8.5 | 104 | 241 | 7.4 | 16 / 0.798 | 4.9 / 0.402 | 26 / 1.131 | 1.8 / 0.046 | 0 / 0.000 | 106 / 1.737 | | 18 / 0.508 | | | 0.05 | | | | 48 | 60 | 0 | 7 | | USGS |
| Sep 15 1[illegible] | 148 | 6[illegible] | 7.9 | [illegible] | 213 | 7.3 | 15 / .749 | 5.0 / 0.411 | 21 / 0.913 | 1.7 / 0.043 | 0 / [illegible] | 96 / 1.573 | 8.2 / 0.171 | 14 / 0.395 | 1.9 / 0.031 | 0.4 / 0.021 | 0.04 | 26 | Fe 0.08; Zn 0.01; (a) | 140[b] | 43 | 58 | [illegible] | 6 | | [illegible] |
| Oct 12 1120 | 116 | [illegible] | 9.7 | 1[illegible]1 | 325 | 7.3 | 21 / 1.048 | 7.4 / 0.608 | 36 / 1.566 | 2.5 / 0.064 | 0 / 0.000 | 143 / 2.344 | | 22 / 0.649 | | | 0.06 | | | | 48 | 83 | [illegible] | 7 | | [illegible] |
| Nov 16 1[illegible]5 | 110 | 50 | 9.7 | 96 | 312 | 7.3 | 21 / 1.048 | 6.9 / 0.564 | 24 / 1.479 | 1.6 / 0.067 | 0 / 0.000 | 141 / 2.311 | | 22 / 0.620 | | | 0.05 | | | | 47 | 81 | 0 | [illegible] | | [illegible] |
| Dec 14 1135 | 141 | 50 | 9.1 | 92 | [illegible] | 7.3 | 21 / 1.048 | [illegible] / .564 | 33 / 1.436 | 1.8 / 0.077 | 0 / 0.000 | 132 / 2.163 | | 17 / 0.479 | | | 0.01 | | | | 46 | 81 | 0 | 15 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Merced River near Stevinson** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1255 | 2,140 | 48 | 10.0 | 86 | 98.2 | 7.1 | 10 / 0.499 | 2.8 / 0.231 | 4.7 / 0.204 | 1.4 / 0.036 | 0 / 0.000 | 47 / 0.770 | | 2.5 / 0.070 | | | 0.05 | | | | 21 | 36 | 0 | 30 | | USGS |
| Feb 8 1115 | 2,260 | 46 | 10.7 | 90 | 96.4 | 7.3 | 12 / 0.599 | 1.5 / 0.127 | 4.7 / 0.204 | 1.1 / 0.028 | 0 / 0.000 | 48 / 0.787 | | 2.0 / 0.056 | | | 0.05 | | | | 21 | 36 | 0 | 15 | | USGS |
| Mar 14 1320 | 1,440 | 51 | 10.8 | 97 | 104 | 7.1 | 11 / 0.549 | 3.3 / 0.271 | 5.6 / 0.244 | 1.1 / 0.028 | 0 / 0.000 | 52 / 0.852 | | 3.5 / 0.099 | | | 0.01 | | | | 22 | 41 | 0 | 10 | | USGS |
| Apr 11 1420 | 483 | 57 | 9.0 | 86 | 186 | 7.1 | 16 / 0.798 | 3.6 / 0.294 | 17 / 0.740 | 1.7 / 0.043 | 0 / 0.000 | 87 / 1.426 | | 11 / 0.310 | | | 0.01 | | | | 39 | 55 | 0 | 8 | | USGS |
| May 10 0840 | 3,120 | 58 | 9.5 | 93 | 58.1 | 7.1 | 7.2 / 0.359 | 2.2 / 0.181 | 2.6 / 0.113 | 1.0 / 0.026 | 0 / 0.000 | 33 / 0.541 | 5.0 / 0.104 | 0.5 / 0.014 | 0.2 / 0.003 | 0.0 / 0.000 | 0.01 | 10 | Fe 0.02; Cu 0.01; $PO_4$ 0.10; (a) | 45[b] | 17 | 27 | 0 | 16 | | USGS |
| June 13 1230 | 4,390 | 64 | 9.2 | 96 | 33.6 | 6.8 | 4.8 / 0.240 | 0.3 / 0.026 | 1.6 / 0.070 | 0.7 / 0.018 | 0 / 0.000 | 22 / 0.361 | | 0.0 / 0.000 | | | 0.08 | | | | 20 | 13 | 0 | 14 | | USGS |
| July 18 1210 | 342 | 75 | 8.4 | 98 | 221 | 6.9 | 16 / 0.798 | 4.8 / 0.398 | 23 / 1.000 | 1.7 / 0.043 | 0 / 0.000 | 95 / 1.557 | | 16 / 0.451 | | | 0.05 | | | | 45 | 60 | 0 | 5 | | USGS |
| Aug 13 1150 | 223 | 74 | 9.1 | 105 | 224 | 7.3 | 17 / 0.848 | 4.3 / 0.352 | 24 / 1.044 | 1.9 / 0.049 | 0 / 0.000 | 96 / 1.573 | | 18 / 0.508 | | | 0.00 | | | | 46 | 60 | 0 | 1.0 | | USGS |
| Sept 10 0930 | 224 | 69 | 7.7 | 85 | 228 | 7.3 | 17 / 0.848 | 4.5 / 0.372 | 24 / 1.044 | 1.9 / 0.049 | 0 / 0.000 | 100 / 1.639 | 5.2 / 0.108 | 17 / 0.479 | 2.4 / 0.039 | 0.2 / 0.011 | 0.03 | 26 | Fe 0.02; Al 0.03; Cu 0.01; $PO_4$ 0.20; (a) | 147[b] | 45 | 61 | 0 | 3 | | USGS |
| Oct 10 1045 | 243 | 67 | 8.7 | 94 | 223 | 7.5 | 17 / 0.85 | 4.7 / 0.39 | 22 / 0.96 | 2.0 / 0.05 | 0 / 0.00 | 104 / 1.70 | | 14 / 0.39 | | | 0.06 | | | | 43 | 62 | 0 | 6 | | USGS |
| Nov 15 1040 | 173 | 54 | 10.3 | 96 | 281 | 7.6 | 21 / 1.05 | 6.4 / 0.53 | 27 / 1.17 | 2.3 / 0.06 | 0 / 0.00 | 132 / 2.16 | | 17 / 0.48 | | | 0.03 | | | | 42 | 79 | 0 | 2 | | USGS |
| Dec 12 1200 | 159 | 54 | 10.3 | 95 | 296 | 7.5 | 22 / 1.10 | 7.3 / 0.60 | 32 / 1.39 | 2.4 / 0.06 | 0 / 0.00 | 136 / 2.23 | | 21 / 0.59 | | | 0.01 | | | | 44 | 85 | 0 | | median 18 minimum .046 maximum 620 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Mill Creek near Los Molinos** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 0830 | 161 | 37 | 12.8 | 95 | 171 | 7.2 | 13 / 0.649 | 4.0 / 0.331 | 14 / 0.609 | 1.9 / 0.049 | 0 / 0.000 | 62 / 1.016 | | 16 / 0.451 | | | 0.37 | | | | | 37 | 49 | 0 | 0.4 | | USGS |
| Feb 7 1015 | 139 | 42 | 12.6 | 100 | 186 | 7.4 | 13 / 0.649 | 5.7 / 0.471 | 16 / 0.696 | 2.2 / 0.056 | 0 / 0.000 | 66 / 1.082 | | 17 / 0.479 | | | 0.46 | | | | | 37 | 56 | 2 | 0.3 | | USGS |
| Mar 7 0900 | 141 | 44 | 11.7 | 95 | 186 | 7.2 | 13 / 0.649 | 5.0 / 0.411 | 16 / 0.696 | 2.6 / 0.067 | 0 / 0.000 | 64 / 1.049 | | 18 / 0.508 | | | 0.25 | | | | | 38 | 53 | 1 | 0.8 | | USGS |
| Apr 4 0830 | 112 | 46 | 11.8 | 99 | 145 | 7.6 | 7.7 / 0.384 | 5.1 / 0.416 | 12 / 0.522 | 2.1 / 0.054 | 0 / 0.000 | 54 / 0.885 | | 13 / 0.367 | | | 0.29 | | | | | 38 | 40 | 0 | 2 | | USGS |
| May 11 1430 | 337 | 62 | 9.7 | 99 | 101 | 7.6 | 7.6 / 0.379 | 2.4 / 0.201 | 7.3 / 0.317 | 1.6 / 0.041 | 0 / 0.000 | 36 / 0.590 | 10 / 0.208 | 6.5 / 0.183 | 0.2 / 0.003 | 0.1 / 0.005 | 0.19 | 27 | Fe 0.05; Al 0.07; (a) $PO_4$ 0.10 | 81[b] | 34 | 29 | 0 | 3 | | USGS |
| Jun 15 1430 | 109 | 68 | 9.8 | 106 | 130 | 7.7 | 12 / 0.599 | 1.1 / 0.093 | 11 / 0.478 | 3.1 / 0.079 | 0 / 0.000 | 38 / 0.623 | | 9.0 / 0.254 | | | 0.06 | | | | | 38 | 35 | 4 | 2 | | USGS |
| Jul 13 1450 | No flow | 83 | 9.8 | 124 | 214 | 7.4 | 15 / 0.749 | 7.9 / 0.651 | 15 / 0.652 | 3.1 / 0.079 | 0 / 0.000 | 81 / 1.327 | | 16 / 0.451 | | | 0.52 | | | | | 31 | 70 | 4 | 0.8 | | USGS |
| Aug 17 1445 | No flow | 79 | 9.7 | 118 | 235 | 7.4 | 16 / 0.798 | 9.3 / 0.762 | 17 / 0.739 | 3.2 / 0.082 | 0 / 0.000 | 92 / 1.508 | | 18 / 0.508 | | | 0.49 | | | | | 31 | 78 | 3 | 1 | | USGS |
| Sep 14 1430 | No flow | 69 | 7.7 | 85 | 252 | 7.0 | 18 / 0.898 | 9.3 / 0.762 | 16 / 0.696 | 3.8 / 0.097 | 0 / 0.000 | 98 / 1.606 | 16 / 0.333 | 19 / 0.536 | 0.5 / 0.008 | 0.0 / 0.000 | 0.46 | 40 | Fe 0.04; Al 0.01; Cu 0.02; (a) | 171[b] | 28 | 83 | 3 | 0.2 | | USGS |
| Oct 12 1500 | 15 | 64 | 10.0 | 104 | 202 | 7.3 | 12 / 0.599 | 6.1 / 0.505 | 17 / 0.740 | 2.8 / 0.072 | 0 / 0.000 | 65 / 1.065 | | 20 / 0.564 | | | 0.65 | | | | | 39 | 55 | 2 | 3 | | USGS |
| Nov 16 1630 | 97 | 43 | 11.6 | 93 | 229 | 6.8 | 14 / 0.699 | 5.5 / 0.453 | 21 / 0.914 | 3.0 / 0.077 | 0 / 0.000 | 66 / 1.082 | | 24 / 0.677 | | | 0.73 | | | | | 43 | 52 | 4 | 7 | | USGS |
| Dec 14 1400 | 156 | 42 | 11.4 | 91 | 191 | 6.8 | 12 / 0.599 | 5.1 / 0.421 | 17 / 0.740 | 2.6 / 0.067 | 0 / 0.000 | 60 / 0.983 | | 20 / 0.564 | | | 0.52 | | | | | 41 | 51 | 2 | 1 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | **Mill Creek near Los Molinos** | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1340 | 1,590 | 45 | 12.0 | 99 | 75.6 | 6.8 | 6.4 / 0.319 | 2.9 / 0.237 | 4.3 / 0.187 | 1.0 / 0.026 | 0 / 0.000 | 35 / 0.574 | | 2.5 / 0.070 | | | 0.14 | | | | 24 | 28 | 0 | 40 | | USGS |
| Feb 7 1350 | 319 | 44 | 12.3 | 100 | 132 | 6.9 | 9.3 / 0.464 | 4.1 / 0.336 | 9.6 / 0.418 | 1.5 / 0.038 | 0 / 0.000 | 50 / 0.820 | | 9.8 / 0.276 | | | 0.29 | | | | 33 | 40 | 0 | 1 | | USGS |
| Mar 13 1315 | 276 | 47 | 11.9 | 101 | 136 | 6.9 | 9.2 / 0.459 | 4.3 / 0.351 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 53 / 0.869 | | 11 / 0.310 | | | 0.27 | | | | 34 | 40 | 0 | 3 | | USGS |
| Apr 10 1310 | 308 | 53 | 10.9 | 100 | 108 | 6.8 | 8.0 / 0.399 | 2.7 / 0.221 | 9.0 / 0.392 | 1.6 / 0.041 | 0 / 0.000 | 44 / 0.721 | | 6.5 / 0.183 | | | 0.32 | | | | 37 | 31 | 0 | 1 | | USGS |
| May 8 1230 | 642 | 53 | 11.1 | 102 | 86.9 | 6.8 | 7.2 / 0.359 | 2.2 / 0.181 | 6.4 / 0.278 | 1.4 / 0.036 | 0 / 0.000 | 37 / 0.606 | 6.0 / 0.125 | 5.2 / 0.147 | 0.0 / 0.000 | 0.0 / 0.000 | 0.17 | 27 | Fe 0.02; Al 0.03; Cu 0.01; Zn 0.01; As 0.01; $PO_4$ 0.03; (a) | 74[b] | 33 | 27 | 0 | 6 | | USGS |
| June 12 1150 | 447 | 61 | 9.7 | 98 | 91.2 | 7.7 | 7.6 / 0.379 | 2.4 / 0.201 | 6.0 / 0.261 | 1.5 / 0.038 | 0 / 0.000 | 32 / 0.524 | | 4.8 / 0.135 | | | 0.00 | | | | 30 | 29 | 3 | 20 | | USGS |
| July 17 1230 | 81 | 75 | 8.7 | 102 | 130 | 7.5 | 10 / 0.499 | 3.2 / 0.265 | 9.6 / 0.418 | 2.0 / 0.051 | 0 / 0.000 | 45 / 0.738 | | 8.0 / 0.226 | | | 0.25 | | | | 34 | 38 | 1 | 2 | | USGS |
| Aug 14 1200 | 3.5 | 71 | 12.0 | 135 | 160 | 7.9 | 12 / 0.599 | 4.1 / 0.341 | 12 / 0.522 | 2.3 / 0.059 | 0 / 0.000 | 58 / 0.951 | | 12 / 0.338 | | | 0.21 | | | | 34 | 47 | 0 | 0.3 | | USGS |
| Sept 18 1145 | 5.9 | 69 | 10.9 | 120 | 226 | 7.2 | 17 / 0.848 | 9.1 / 0.752 | 15 / 0.652 | 2.5 / 0.090 | 0 / 0.000 | 93 / 1.524 | 17 / 0.354 | 15 / 0.423 | 0.7 / 0.011 | 0.0 / 0.000 | 0.37 | 40 | Al 0.07; Cu 0.01; As 0.01; $PO_4$ 0.20; (a) | 164[b] | 28 | 80 | 4 | 1.0 | | USGS |
| Oct 16 1210 | 28 | 56 | 10.8 | 103 | 187 | 7.5 | 13 / 0.649 | 4.8 / 0.391 | 15 / 0.652 | 2.5 / 0.064 | 0 / 0.000 | 63 / 1.033 | | 18 / 0.508 | | | 0.43 | | | | 37 | 52 | 0 | 0.8 | | USGS |
| Nov 19 1340 | 125 | 46 | 12.2 | 102 | 191 | 6.8 | 12 / 0.60 | 5.5 / 0.45 | 16 / 0.70 | 2.9 / 0.07 | 0 / 0.00 | 63 / 1.03 | | 18 / 0.51 | | | 0.46 | | | | 38 | 53 | 1 | 0.4 | | USGS |
| Dec 11 1125 | 105 | 41 | 12.5 | 98 | 195 | 7.3 | 13 / 0.55 | 6.7 / 0.55 | 17 / 0.74 | 2.4 / 0.06 | 0 / 0.00 | 65 / 1.07 | | 20 / 0.56 | | | 0.65 | | | | 37 | 60 | 7 | 0.4 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Mokelumne River near Lancha Plana | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1530 | 812 | 47 | 10.9 | 92 | 76.9 | 6.7 | 6.1 / 0.304 | 2.4 / 0.196 | 3.4 / 0.148 | 0.7 / 0.018 | 0 / 0.000 | 22 / 0.361 | | 3.5 / 0.099 | | | 0.00 | | | | 22 | 25 | 7 | 10 | | USGS |
| Feb 15 1140 | 666 | 50 | 11.3 | 100 | 51.4 | 7.0 | 5.1 / 0.254 | 1.3 / 0.106 | 2.8 / 0.122 | 0.6 / 0.015 | 0 / 0.000 | 24 / 0.393 | | 3.0 / 0.085 | | | 0.01 | | | | 25 | 18 | 0 | 2 | | USGS |
| Mar 15 1030 | 63 | 50 | 11.9 | 105 | 81.5 | 6.8 | 6.3 / 0.314 | 2.3 / 0.186 | 3.4 / 0.148 | 0.8 / 0.020 | 0 / 0.000 | 24 / 0.393 | | 3.5 / 0.099 | | | 0.00 | | | | 22 | 25 | 5 | 2 | | USGS |
| Apr 19 1200 | 698 | 48 | 12.0 | 105 | 48.6 | 6.8 | 3.2 / 0.160 | 2.6 / 0.212 | 3.1 / 0.135 | 0.8 / 0.020 | 0 / 0.000 | 24 / 0.393 | | 3.2 / 0.090 | | | 0.02 | | | | 26 | 19 | 0 | 1 | | USGS |
| May 20 1040 | 698 | 49 | 11.4 | 99 | 53.4 | 7.2 | 7.2 / 0.359 | 0.3 / 0.021 | 4.0 / 0.174 | 1.7 / 0.043 | 0 / 0.000 | 25 / 0.410 | 2.6 / 0.054 | 3.5 / 0.099 | 0.2 / 0.003 | 0.2 / 0.011 | 0.00 | 11 | Fe 0.03; Al 0.02; (a) $PO_4$ 0.00 | 43[b] | 29 | 19 | 0 | 5 | | USGS |
| Jun 24 1030 | 654 | 49 | 11.4 | 99 | 50.1 | 7.1 | 5.7 / 0.284 | 2.1 / 0.176 | 3.1 / 0.135 | 0.7 / 0.018 | 0 / 0.000 | 27 / 0.442 | | 3.5 / 0.099 | | | 0.05 | | | | 22 | 23 | 1 | 1 | | USGS |
| Jul 18 1000 | 649 | 54 | 11.5 | 107 | 74.9 | 6.8 | 6.0 / 0.299 | 1.5 / 0.121 | 4.8 / 0.209 | 1.6 / 0.041 | 0 / 0.000 | 19 / 0.311 | | 3.0 / 0.085 | | | 0.10 | | | | 31 | 21 | 5 | 3 | | USGS |
| Aug 22 1130 | 654 | 56 | 11.2 | 107 | 54.1 | 7.2 | 2.8 / 0.140 | 2.9 / 0.240 | 3.1 / 0.135 | 0.7 / 0.018 | 0 / 0.000 | 27 / 0.442 | | 3.0 / 0.085 | | | 0.00 | | | | 25 | 19 | 0 | 1 | | USGS |
| Sep 20 1350 | 654 | 56 | 10.0 | 95 | 45.3 | 7.5 | 1.7 / 0.084 | 0.3 / 0.022 | 2.2 / 0.096 | 0.7 / 0.018 | 0 / 0.000 | 21 / 0.344 | 1.4 / 0.029 | 1.9 / 0.054 | 0.0 / 0.000 | 0.1 / 0.005 | 0.14 | 12 | Fe 0.02; Al 0.05; Cu 0.02; (a) | 34[b] | 23 | 15 | 0 | 1 | | USGS |
| Oct 17 1330 | 650 | 59 | 8.8 | 86 | 41.3 | 7.0 | 3.8 / 0.190 | 1.0 / 0.086 | 2.6 / 0.113 | 0.7 / 0.018 | 0 / 0.000 | 21 / 0.344 | | 0.7 / 0.020 | | | 0.08 | | | | 28 | 14 | 0 | 3 | | USGS |
| Nov 21 1120 | 332 | 54 | 9.5 | 88 | 40.9 | 7.3 | 4.0 / 0.200 | 0.5 / 0.040 | 2.8 / 0.122 | 0.7 / 0.018 | 0 / 0.000 | 19 / 0.311 | | .2 / 0.062 | | | 0.00 | | | | 32 | 12 | 0 | 10 | | USGS |
| Dec 19 1240 | 350 | 52 | 10.2 | 92 | 42.9 | 7.0 | 3.2 / 0.160 | 1.5 / 0.120 | 2.3 / 0.100 | 0.6 / 0.015 | 0 / 0.000 | 17 / 0.279 | | 3.2 / 0.090 | | | 0.12 | | | | 25 | 14 | 0 | 2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 minimum .06 maximum 2.00 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Mokelumne River near Lancha Plana | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1130 | 5,020 | 46 | 12.2 | 102 | 42.5 | 7.1 | 3.6 / 0.180 | 1.5 / 0.120 | 1.7 / 0.074 | 0.8 / 0.020 | 0 / 0.000 | 20 / 0.328 | | 1.5 / 0.042 | | | 0.04 | | | | 19 | 15 | 0 | 80 | | USGS |
| Feb 14 1130 | 1,510 | 43 | 12.6 | 101 | 43.3 | 7.1 | 4.8 / 0.240 | 0.9 / 0.072 | 2.2 / 0.096 | 0.8 / 0.020 | 0 / 0.000 | 22 / 0.361 | | 0.9 / 0.025 | | | 0.05 | | | | 22 | 16 | 0 | 15 | | USGS |
| Mar 19 1100 | 1,530 | 44 | 12.8 | 104 | 46.1 | 7.1 | 4.4 / 0.220 | 1.2 / 0.100 | 2.7 / 0.117 | 1.1 / 0.028 | 0 / 0.000 | 23 / 0.377 | | 2.8 / 0.079 | | | 0.20 | | | | 25 | 16 | 0 | 5 | | USGS |
| Apr 16 1100 | 1,200 | 47 | 12.3 | 104 | 44.1 | 7.1 | 4.0 / 0.200 | 1.3 / 0.108 | 2.1 / 0.091 | 0.9 / 0.023 | 0 / 0.000 | 24 / 0.393 | | 0.7 / 0.020 | | | 0.04 | | | | 22 | 15 | 0 | 6 | | USGS |
| May 14 1000 | 1,400 | 50 | 11.6 | 102 | 41.4 | 7.1 | 3.8 / 0.190 | 1.5 / 0.122 | 2.0 / 0.087 | 0.9 / 0.023 | 0 / 0.000 | 25 / 0.410 | 1.0 / 0.021 | 1.0 / 0.028 | 0.2 / 0.003 | 0.0 / 0.000 | 0.01 | 16 | Fe 0.01; Al 0.07; Cu 0.02; Zn 0.02; $PO_4$ 0.20; (a) | 38[b] | 21 | 16 | 0 | 25 | | USGS |
| June 19 1045 | 2,180 | 58 | 10.2 | 99 | 29.2 | 7.3 | 4.0 / 0.200 | 0.4 / 0.034 | 1.6 / 0.070 | 0.7 / 0.018 | 0 / 0.000 | 19 / 0.311 | | 0.3 / 0.008 | | | 0.07 | | | | 22 | 12 | 0 | 2 | | USGS |
| July 26 1100 | 737 | 60 | 10.0 | 100 | 30.1 | 6.9 | 3.6 / 0.180 | 0.6 / 0.046 | 1.7 / 0.074 | 0.7 / 0.018 | 0 / 0.000 | 18 / 0.295 | | 0.7 / 0.020 | | | 0.17 | | | | 23 | 11 | 0 | 20 | | USGS |
| Aug 20 1000 | 720 | 58 | 10.2 | 99 | 26.6 | 6.9 | 3.2 / 0.160 | 0.2 / 0.020 | 1.4 / 0.061 | 0.6 / 0.015 | 0 / 0.000 | 15 / 0.246 | | 0.3 / 0.008 | | | 0.00 | | | | 24 | 9 | 0 | 7 | | USGS |
| Sept 11 1150 | 715 | 61 | 10.0 | 102 | 32.9 | 6.8 | 3.2 / 0.160 | 0.7 / 0.060 | 2.4 / 0.104 | 0.7 / 0.018 | 0 / 0.000 | 18 / 0.295 | 1.0 / 0.021 | 0.9 / 0.025 | 0.3 / 0.005 | 0.1 / 0.005 | 0.01 | 9.0 | Cu 0.07; $PO_4$ 0.00; (a) | 27[b] | 30 | 11 | 0 | 1 | | USGS |
| Oct 18 1050 | 710 | 60 | 10.1 | 101 | 31.3 | 6.8 | 3.7 / 0.185 | 0.3 / 0.023 | 1.5 / 0.065 | 0.6 / 0.015 | 0 / 0.000 | 16 / 0.262 | | 0.3 / 0.008 | | | 0.13 | | | | 23 | 10 | 0 | 0.7 | | USGS |
| Nov 19 1030 | 710 | 53 | 10.4 | 95 | 31.1 | 7.0 | 3.3 / 0.16 | 0.9 / 0.07 | 1.5 / 0.07 | 0.7 / 0.02 | 0 / 0.00 | 16 / 0.26 | | 1.2 / 0.03 | | | 0.03 | | | | 22 | 12 | 0 | 2 | | USGS |
| Dec 17 1030 | 704 | 51 | 11.3 | 101 | 32.0 | 6.8 | 3.6 / 0.18 | 2.7 / 0.22 | 1.5 / 0.07 | 0.7 / 0.02 | 0 / 0.00 | 16 / 0.26 | | 0.0 / 0.00 | | | 0.12 | | | | 14 | 20 | 7 | 1 | median 2.3 minimum .045 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Mokelumne River at Woodbridge** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1110 | 1,040 | 44 | 11.2 | 91 | 68.9 | 6.7 | 6.5 / 0.324 | 1.7 / 0.136 | 3.8 / 0.165 | 1.6 / 0.041 | 0 / 0.000 | 23 / 0.377 | | 3.0 / 0.085 | | | 0.03 | | | | 25 | 23 | 4 | 40 | | USGS |
| Feb 15 1230 | 456 | 50 | 10.6 | 93 | 54.6 | 7.0 | 5.8 / 0.289 | 1.7 / 0.141 | 3.0 / 0.130 | 0.7 / 0.018 | 0 / 0.000 | 24 / 0.393 | | 2.8 / 0.079 | | | 0.05 | | | | 22 | 22 | 2 | 2 | | USGS |
| Mar 17 1520 | 475 | 54 | 10.2 | 95 | 59.8 | 7.1 | 5.9 / 0.294 | 1.3 / 0.106 | 3.4 / 0.148 | 0.9 / 0.023 | 0 / 0.000 | 26 / 0.426 | | 3.0 / 0.085 | | | 0.00 | | | | 20 | 20 | 0 | 2 | | USGS |
| Apr 21 1350 | 276 | 55 | 10.0 | 94 | 65.5 | 7.2 | 4.0 / 0.200 | 3.2 / 0.260 | 3.4 / 0.148 | 0.8 / 0.020 | 0 / 0.000 | 26 / 0.426 | | 3.4 / 0.096 | | | 0.03 | | | | 24 | 23 | 2 | 2 | | USGS |
| May 20 0820 | 14 | 63 | 9.2 | 100 | 78.9 | 6.8 | 8.4 / 0.419 | 2.0 / 0.161 | 4.5 / 0.196 | 0.9 / 0.023 | 0 / 0.000 | 37 / 0.606 | 4.2 / 0.087 | 4.2 / 0.118 | 0.5 / 0.008 | 0.2 / 0.011 | 0.01 | 15 | Al 0.01; (a) $PO_4$ 0.10 | 58[b] | 25 | 29 | 0 | 1 | | USGS |
| Jun 23 1230 | [illegible] | 70 | 8.3 | 92 | 75.4 | 7.0 | 7.6 / 0.379 | 2.2 / 0.181 | 4.2 / 0.183 | 1.9 / 0.049 | 0 / 0.000 | 35 / 0.574 | | 3.2 / 0.090 | | | 0.02 | | | | 24 | 28 | 0 | 1 | | USGS |
| Jul 15 1100 | [illegible] | 70 | 8.2 | 91 | 81.3 | [illegible] | 6.4 / 0.319 | 2.2 / 0.181 | 4.9 / 0.213 | 1.4 / 0.036 | 0 / 0.000 | 27 / 0.442 | | 4.0 / 0.113 | | | 0.14 | | | | [illegible] | 25 | 3 | 7 | | USGS |
| Aug 26 0820 | 18 | 63 | 8.5 | 88 | 67.9 | 7.1 | 6.4 / 0.319 | 2.2 / 0.181 | 3.8 / 0.165 | 0.7 / 0.018 | 0 / 0.000 | 33 / 0.541 | | 2.8 / 0.079 | | | 0.00 | | | | 24 | 25 | 0 | 5 | | USGS |
| Sep 19 1430 | 303 | [illegible] | [illegible] | 91 | 75.5 | 7.3 | 4.9 / 0.245 | 1.2 / 0.111 | 3.2 / 0.139 | 0.7 / 0.018 | 0 / 0.000 | 26 / 0.426 | [illegible] | [illegible] | [illegible] | 0.1 / 0.005 | 0.03 | 13 | Fe 0.05; Cu 0.01; Zn 0.01; (a) | 41[b] | 27 | 18 | 0 | 4.0 | | USGS |
| Oct 14 0925 | 322 | 61 | [illegible] | 89 | [illegible] | 7.0 | [illegible] | 1.9 / 0.154 | 2.6 / 0.113 | 0.9 / 0.023 | 0 / 0.000 | 25 / 0.410 | | 1.9 / 0.054 | | | 0.00 | | | | 22 | 19 | 0 | 8 | | USGS |
| Nov 18 1010 | 340 | 51 | 9.7 | 87 | 41.4 | [illegible] | 2.9 / 0.145 | 1.5 / 0.123 | 2.3 / 0.100 | 0.7 / 0.018 | 0 / 0.000 | 23 / 0.377 | | [illegible] / [illegible] | | | 0.00 | | | | 23 | 16 | 0 | 40 | | USGS |
| Dec 16 0910 | 303 | 49 | [illegible] | 90 | 43.1 | [illegible] | 4.4 / [illegible] | 1.7 / 0.140 | 2.5 / 0.109 | 0.7 / 0.018 | 0 / 0.000 | [illegible] / 0.328 | | 1.9 / 0.054 | | | 0.00 | | | | 22 | 18 | 2 | 0 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 5

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Mokelumne River at Woodbridge** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 0905 | 2,030 | 46 | 10.9 | 91 | 49.0 | 6.9 | 4.8 / 0.240 | 1.3 / 0.110 | 2.3 / 0.100 | 1.0 / 0.026 | 0 / 0.000 | 22 / 0.361 | | 2.0 / 0.056 | | | 0.02 | | | | 21 | 18 | 0 | 40 | | USGS |
| Feb 9 1330 | 1,740 | 45 | 11.5 | 95 | 48.7 | 7.1 | 5.4 / 0.269 | 0.8 / 0.069 | 2.4 / 0.104 | 0.9 / 0.023 | 0 / 0.000 | 23 / 0.377 | | 0.4 / 0.011 | | | 0.08 | | | | 22 | 17 | 0 | 20 | | USGS |
| Mar 16 0930 | 1,010 | 46 | 11.7 | 98 | 49.5 | 7.1 | 5.4 / 0.269 | 1.0 / 0.085 | 2.4 / 0.104 | 0.9 / 0.023 | 0 / 0.000 | 24 / 0.393 | | 0.7 / 0.020 | | | 0.03 | | | | 22 | 18 | 0 | 20 | | USGS |
| Apr 13 0925 | 1,040 | 47 | 11.7 | 99 | 48.9 | 7.1 | 4.4 / 0.220 | 1.3 / 0.110 | 2.4 / 0.104 | 0.9 / 0.023 | 0 / 0.000 | 26 / 0.426 | | 0.8 / 0.023 | | | 0.12 | | | | 23 | 16 | 0 | 15 | | USGS |
| May 11 0815 | 2,580 | 50 | 11.2 | 99 | 42.4 | 7.0 | 4.4 / 0.220 | 1.7 / 0.140 | 2.3 / 0.100 | 0.9 / 0.023 | 0 / 0.000 | 22 / 0.361 | 2.0 / 0.042 | 2.5 / 0.070 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 12 | Fe 0.01; $PO_4$ 0.00 (a) | 37[b] | 21 | 18 | 0 | 10 | | USGS |
| June 15 1020 | 1,750 | 69 | 10.1 | 111 | 31.7 | 6.8 | 3.5 / 0.175 | 0.8 / 0.065 | 1.6 / 0.070 | 0.7 / 0.018 | 0 / 0.000 | 19 / 0.311 | | 0.8 / 0.023 | | | 0.07 | | | | 21 | 12 | 0 | 4 | | USGS |
| July 20 0930 | 214 | 68 | 9.4 | 103 | 32.3 | 6.8 | 3.6 / 0.180 | 0.7 / 0.060 | 1.9 / 0.083 | 0.9 / 0.023 | 0 / 0.000 | 20 / 0.328 | | 0.7 / 0.020 | | | 0.07 | | | | 25 | 12 | 0 | 9 | | USGS |
| Aug 17 0900 | 49 | 69 | 9.0 | 99 | 42.3 | 6.8 | 4.4 / 0.220 | 0.9 / 0.070 | 2.1 / 0.091 | 0.9 / 0.023 | 0 / 0.000 | 23 / 0.377 | | 0.3 / 0.008 | | | 0.00 | | | | 23 | 14 | 0 | 5 | | USGS |
| Sept 11 1430 | 236 | 68 | 9.3 | 101 | 31.1 | 6.8 | 2.0 / 0.100 | 1.9 / 0.160 | 1.8 / 0.078 | 0.7 / 0.018 | 0 / 0.000 | 20 / 0.328 | 1.0 / 0.021 | 0.1 / 0.003 | 0.0 / 0.000 | 0.1 / 0.005 | 0.02 | 9.3 | Fe 0.02; $PO_4$ 0.00 Cu 0.08; (a) | 27[b] | 22 | 13 | 0 | 1 | | USGS |
| Oct 11 1150 | 473 | 61 | 9.6 | 97 | 37.6 | 7.1 | 4.0 / 0.200 | 0.6 / 0.046 | 2.0 / 0.087 | 1.0 / 0.026 | 0 / 0.000 | 18 / 0.295 | | 0.4 / 0.011 | | | 0.02 | | | | 24 | 12 | 0 | 2 | | USGS |
| Nov 16 1330 | 692 | 53 | 10.3 | 94 | 34.1 | 6.9 | 3.6 / 0.18 | 1.0 / 0.08 | 1.6 / 0.07 | 0.6 / 0.02 | 0 / 0.00 | 17 / 0.28 | | 1.3 / 0.04 | | | 0.06 | | | | 20 | 13 | 0 | 5 | | USGS |
| Dec 14 0910 | 670 | 50 | 11.3 | 100 | 38.8 | 6.9 | 3.6 / 0.18 | 2.2 / 0.18 | 1.6 / 0.07 | 0.8 / 0.02 | 0 / 0.00 | 18 / 0.30 | | 0.0 / 0.00 | | | 0.09 | | | | 16 | 18 | 3 | 9 | median 180 minimum 6.2 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Min[illegible]alyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), [illegible] Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | | | | | Old River at Clifton Court Ferry | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 0940 | | 45 | 9.4 | 78 | 383 | 7.3 | 22 / 1.098 | 9.5 / 0.782 | 43 / 1.870 | 3.8 / 0.097 | 0 / 0.000 | 85 / 1.393 | 37 / 0.770 | 56 / 1.579 | 3.5 / 0.056 | 0.7 / 0.037 | 0.07 | 22 | Fe 0.21 | 240[b] | 49 | 94 | 24 | 55 | | USGS |
| Feb 21 1515 | | 50 | 9.7 | 86 | 602 | 7.4 | 31 / 1.55 | 14 / 1.17 | 67 / 2.91 | 2.6 / 0.07 | 0 / 0.00 | 102 / 1.67 | 68 / 1.42 | 88 / 2.48 | 2.0 / 0.03 | 0.1 / 0.01 | 0.22 | 17 | Fe 0.02 | 340[b] | 51 | 136 | 52 | 6 | | USGS |
| Mar 16 0900 | | 55 | 9.1 | 85 | 598 | 7.4 | 31 / 1.55 | 14 / 1.17 | 66 / 2.87 | 2.5 / 0.06 | 0 / 0.00 | 97 / 1.59 | 60 / 1.25 | 96 / 2.71 | 1.3 / 0.02 | 0.2 / 0.01 | 0.23 | 16 | Fe 0.03 | 335[b] | 51 | 136 | 56 | 10 | | USGS |
| Apr 20 0920 | | 58 | 8.5 | 83 | 370 | 7.2 | 22 / 1.148 | 11 / 0.892 | 33 / 1.435 | 2.9 / 0.074 | [illegible] / [illegible] | 90 / 1.475 | 35 / 0.729 | 46 / 1.297 | 1.6 / 0.026 | 0.3 / 0.016 | 0.14 | 19 | Fe 0.16 | 216[b] | 40 | 102 | 28 | | | USGS |
| May 19 1300 | | 68 | 7.5 | 92 | 398 | 7.6 | 25 / 1.248 | 13 / 1.069 | 36 / 1.565 | 2.2 / 0.056 | 0 / [illegible] | 94 / 1.541 | 37 / 0.770 | 56 / 1.579 | 1.2 / 0.019 | 0.2 / 0.011 | 0.15 | 18 | Fe 0.03; Al 0.02; Cu 0.01; Zn 0.01; (a) [illegible] 0.10 | 235[b] | 40 | 115 | 38 | 25 | | USGS |
| Jun 21 1030 | | 71 | 7.4 | 83 | 267 | 7.4 | 14 / 0.699 | 8.9 / 0.732 | 21 / 1.000 | 1.7 / 0.043 | 0 / 0.000 | 76 / 1.246 | 22 / 0.458 | 30 / 0.846 | 0.8 / 0.013 | 0.2 / 0.011 | 0.11 | 14 | Fe 0.02 | 154[b] | 39 | 76 | 14 | 30 | | USGS |
| Jul 19 0950 | | 7[illegible] | 7.0 | [illegible] | 289 | 7.2 | 16 / 0.798 | 8.5 / 0.700 | 25 / 1.087 | 2.1 / 0.054 | 0 / 0.000 | 78 / 1.278 | 26 / 0.541 | 30 / 0.847 | 0.7 / 0.011 | 0.2 / 0.011 | 0.12 | 17 | Fe 0.25 | 164[b] | 41 | 76 | 10 | 35 | | USGS |
| Aug 23 1000 | | 75 | 6.8 | 80 | 596 | 7.3 | 20 / 1.00 | 14 / 1.12 | 62 / 2.70 | 2.3 / 0.06 | 0 / 0.00 | 92 / 1.51 | 32 / 0.67 | 100 / 2.82 | 0.9 / 0.01 | 0.2 / 0.01 | 0.19 | 19 | Fe 0.15 | 297[b] | 55 | 100 | [illegible] | 35 | | USGS |
| Sep [illegible] [illegible] | | [illegible] | [illegible] | [illegible] | 616 | 7.3 | [illegible] / 1.40 | 14 / 1.16 | 67 / 2.91 | 3.6 / [illegible] | 0 / 0.00 | 118 / 1.93 | 35 / 0.73 | 110 / [illegible] | 0.5 / 0.01 | 0.3 / 0.02 | 0.08 | 22 | Fe 0.08; Al 0.06; Cu 0.01; (a) $PO_4$ 0.25 | 339[b] | 52 | 128 | 31 | 35 | | USGS |
| Oct 19 1[illegible]5 | | [illegible] | 7.1 | 74 | 596 | 7.5 | 18 / [illegible] | 22 / 1.82 | 65 / 2.83 | 3.2 / 0.08 | 0 / [illegible] | 141 / 2.15 | [illegible] / [illegible] | [illegible] / [illegible] | 0.9 / 0.01 | 0.3 / 0.02 | 0.07 | 22 | Fe 0.04 | 327[b] | 50 | 136 | 29 | 45 | | USGS |
| Nov [illegible] 1[illegible]50 | | [illegible] | 9.6 | 85 | 1[illegible]20 | 7.6 | 5[illegible] / [illegible] | 2[illegible] / 1.[illegible] | 116 / 5.05 | 5.0 / 0.13 | 0 / [illegible] | 167 / 2.74 | 79 / 1.64 | [illegible] / [illegible] | 4.7 / 0.08 | 0.4 / 0.02 | 0.25 | 31 | Fe 0.01 | 521[b] | 52 | 2[illegible] | 27 | 9 | | USGS |
| Dec [illegible]1 [illegible]50 | | [illegible] | 8.3 | 75 | 467 | 7.3 | 21 / 1.55 | 13 / 1.07 | 60 / 2.61 | 2.3 / [illegible] | 0 / [illegible] | 154 / 1.75 | [illegible] / 1.00 | 4 / [illegible] | 3.0 / 0.05 | 0.3 / 0.02 | 0.15 | 20 | Fe 0.02 | 326[b] | 49 | 151 | 46 | 15 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (in mmhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Old River at Clifton Court Ferry** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 0910 | | 47 | 9.6 | 82 | 160 | 7.1 | 11 / 0.549 | 4.8 / 0.391 | 12 / 0.522 | 2.0 / 0.051 | 0 / 0.000 | 50 / 0.820 | 12 / 0.250 | 14 / 0.395 | 1.8 / 0.029 | 0.4 / 0.021 | 0.15 | 17 | | 100[b] | 35 | 47 | 6 | 35 | | USGS |
| Feb 16 0930 | | 43 | 9.9 | 79 | 240 | 7.3 | 15 / 0.748 | 5.9 / 0.484 | 24 / 1.044 | 1.7 / 0.043 | 0 / 0.000 | 66 / 1.082 | 19 / 0.396 | 27 / 0.761 | 1.0 / 0.016 | 0.3 / 0.016 | 0.07 | 16 | | 143[b] | 45 | 62 | 8 | 35 | | USGS |
| Mar 21 0850 | | 57 | 9.3 | 90 | 455 | 7.3 | 24 / 1.198 | 12 / 0.982 | 44 / 1.914 | 2.2 / 0.056 | 0 / 0.000 | 96 / 1.573 | 31 / 0.645 | 68 / 1.918 | 1.0 / 0.016 | 0.2 / 0.011 | 0.18 | 22 | | 252[b] | 46 | 109 | 30 | 22 | | USGS |
| Apr 17 1225 | | 55 | 9.9 | 93 | 218 | 7.3 | 13 / 0.649 | 5.8 / 0.479 | 21 / 0.914 | 1.6 / 0.041 | 0 / 0.000 | 62 / 1.016 | 15 / 0.312 | 28 / 0.790 | 1.4 / 0.023 | 0.3 / 0.016 | 0.01 | 17 | | 134[b] | 44 | 56 | 5 | 10 | | USGS |
| May 15 1155 | | 60 | 9.2 | 92 | 140 | 7.3 | 10 / 0.499 | 3.3 / 0.269 | 13 / 0.566 | 1.3 / 0.033 | 0 / 0.000 | 45 / 0.738 | 10 / 0.208 | 15 / 0.423 | 0.6 / 0.010 | 0.3 / 0.016 | 0.09 | 14 | Fe 0.06; Al 0.03; Zn 0.01; $PO_4$ 0.15; (a) | 90[b] | 41 | 38 | 1 | 15 | | USGS |
| June 20 1130 | | 68 | 8.0 | 87 | 178 | 7.3 | 12 / 0.599 | 4.0 / 0.325 | 17 / 0.740 | 1.5 / 0.038 | 0 / 0.000 | 50 / 0.820 | 12 / 0.250 | 23 / 0.649 | 1.1 / 0.018 | 0.2 / 0.011 | 0.00 | 15 | Fe 0.03 (a) | 111[b] | 43 | 46 | 5 | 30 | | USGS |
| July 24 0940 | | 78 | 6.9 | 83 | 200 | 6.8 | 12 / 0.599 | 5.8 / 0.481 | 18 / 0.783 | 1.6 / 0.041 | 0 / 0.000 | 54 / 0.885 | 14 / 0.291 | 25 / 0.705 | 0.6 / 0.010 | 0.3 / 0.016 | 0.04 | 12 | | 116[b] | 41 | 54 | 10 | 45 | | USGS |
| Aug 21 1230 | | 74 | 7.5 | 87 | 573 | 7.5 | 33 / 1.65 | 13 / 1.07 | 62 / 2.70 | 2.8 / 0.07 | 0 / 0.00 | 119 / 1.95 | 36 / 0.75 | 96 / 2.71 | 1.0 / 0.02 | 0.3 / 0.02 | 0.13 | 20 | | 323[b] | 49 | 136 | 38 | 20 | | USGS |
| Sept 13 1400 | | 72 | 8.1 | 92 | 372 | 8.2 | 21 / 1.048 | 9.5 / 0.784 | 41 / 1.784 | 2.1 / 0.054 | 0 / 0.000 | 89 / 1.459 | 26 / 0.541 | 55 / 1.551 | 1.1 / 0.018 | 0.3 / 0.016 | 0.16 | 12 | Fe 0.03; Al 0.02; Cu 0.01; $PO_4$ 0.20; Zn 0.04; (a)[4] | 212[b] | 49 | 92 | 19 | 20 | | USGS |
| Oct 16 1010 | | 65 | 9.7 | 102 | 601 | 7.0 | 32 / 1.60 | 14 / 1.16 | 65 / 2.83 | 2.2 / 0.08 | 0 / 0.00 | 130 / 2.13 | 31 / 0.65 | 100 / 2.82 | 2.3 / 0.04 | 0.1 / 0.01 | 0.17 | 26 | | 338[b] | 50 | 128 | 31 | | | USGS |
| Nov 20 1135 | | 49 | 10.1 | 88 | 600 | 7.6 | 30 / 1.50 | 15 / 1.24 | 67 / 2.91 | 2.6 / 0.07 | 0 / 0.00 | 115 / 1.89 | 44 / 0.92 | 100 / 2.82 | 2.3 / 0.04 | 0.2 / 0.01 | 0.27 | 23 | Fe 0.03; (a) | 341[b] | 51 | 137 | 43 | 12 | | USGS |
| Dec 18 1210 | | 51 | 8.9 | 80 | 460 | 7.2 | 25 / 1.25 | 12 / 0.99 | 48 / 2.09 | 2.0 / 0.05 | 0 / 0.00 | 92 / 1.51 | 35 / 0.73 | 75 / 2.12 | 2.4 / 0.04 | 0.1 / 0.01 | 0.06 | 19 | Fe 0.03; (a) | 264[b] | 48 | 112 | 37 | 25 | median 62 minimum 2.3 maximum 2400 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | | | | | Old River at Mandeville Island | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1520 | | 43 | 10.8 | 87 | 495 | 7.2 | 32 / 1.597 | 14 / 1.173 | 44 / 1.913 | 2.9 / 0.074 | 0 / 0.000 | 83 / 1.360 | 56 / 1.166 | 71 / 2.002 | 8.0 / 0.129 | 0.5 / 0.026 | 0.12 | 23 | Fe 0.10 | 292[b] | 40 | 138 | 70 | 20 | | [illegible] |
| Feb 16 1600 | | 50 | 8.6 | 76 | 495 | 7.2 | 31 / 1.547 | 15 / 1.253 | 45 / 1.957 | 2.7 / 0.069 | 0 / 0.000 | 93 / 1.606 | 61 / 1.270 | 66 / 1.861 | 4.8 / 0.077 | 0.4 / 0.021 | 0.10 | 20 | Fe 0.13 | 294[b] | 41 | 140 | 60 | 15 | | [illegible] |
| Mar 17 1130 | | 54 | 9.6 | 89 | 353 | 7.4 | 22 / 1.098 | 11 / 0.902 | 31 / 1.348 | 1.6 / 0.041 | 0 / 0.000 | 86 / 1.409 | 32 / 0.666 | 43 / 1.213 | 1.9 / 0.031 | 0.2 / 0.011 | 0.15 | 20 | Fe 0.06 | 205[b] | 40 | 100 | 29 | 8 | | [illegible] |
| Apr 21 1020 | | 56 | 9.0 | 85 | 241 | 7.3 | 16 / 0.798 | 8.0 / 0.662 | 20 / 0.870 | 1.7 / 0.043 | 0 / 0.000 | 82 / 1.344 | 17 / 0.354 | 23 / 0.649 | 0.9 / 0.015 | 0.2 / 0.011 | 0.14 | 19 | Fe 0.14 | 146[b] | 37 | 73 | 6 | | | [illegible] |
| May 19 1250 | | 68 | 8.3 | 96 | 190 | 7.4 | 13 / 0.649 | 6.7 / 0.551 | 14 / 0.609 | 1.4 / 0.036 | 0 / 0.000 | 69 / 1.131 | 14 / 0.291 | 17 / 0.479 | 0.6 / 0.010 | 0.3 / 0.016 | 0.06 | 17 | Fe 0.1; Al 0.3; (a) $PO_4$ 0.15 | 118[b] | 33 | 63 | 3 | 25 | | [illegible] |
| Jun 22 1350 | | 69 | 8.6 | 94 | 183 | 7.4 | 12 / 0.599 | 6.8 / 0.561 | 15 / 0.652 | 1.3 / 0.033 | 0 / 0.000 | 69 / 1.131 | 13 / 0.271 | 15 / 0.423 | 0.5 / 0.008 | 0.2 / 0.011 | 0.08 | 15 | Fe 0.15 | 113[b] | 35 | [illegible] | 1 | 20 | | [illegible] |
| Jul 19 1315 | | 75 | 8.2 | 96 | 297 | 7.3 | 15 / 0.749 | 6.9 / 0.571 | 32 / 1.391 | 2.1 / 0.054 | 0 / 0.000 | 83 / 1.360 | 19 / 0.395 | 38 / 1.072 | 0.5 / 0.008 | 0.0 / 0.000 | 0.07 | 18 | Fe 0.24 | 172[b] | 50 | 66 | 6 | 25 | | [illegible] |
| Aug [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | 7.4 | 19 / 0.95 | 15 / 1.1 | [illegible] / 1.57 | 4.1 / 0.10 | 0 / 0.00 | 93 / 1.52 | 2 / 0.07 | 14 / [illegible] | [illegible] / 0.01 | 0.2 / 0.01 | 0.24 | 19 | Fe 0.08 | 348[b] | 61 | 102 | 32 | 30 | | [illegible] |
| Sep 21 1300 | | 69 | 8.1 | 97 | 446 | 7.4 | 17 / 0.849 | 14 / 1.132 | 48 / 2.087 | 2.9 / 0.074 | 0 / 0.000 | 109 / 1.786 | 24 / 0.500 | [illegible] / 1.394 | 6.6 / 0.106 | 0.3 / 0.016 | 0.13 | 21 | Fe 0.13; Al 0.04; $PO_4$ 0.25; (a) | 252[b] | 50 | 97 | 16 | 40 | | [illegible] |
| Oct 19 1415 | | 62 | 7.5 | 78 | 380 | 7.3 | 16 / 0.798 | 13 / 1.067 | 34 / 1.479 | 2.5 / 0.064 | 0 / 0.000 | 110 / 1.803 | 19 / 0.396 | 42 / 1.184 | 0.9 / 0.015 | 0.2 / 0.016 | 0.09 | 22 | Fe 0.07 | 204[b] | 43 | 93 | 3 | [illegible] | | [illegible] |
| Nov 22 0955 | | 56 | 9.2 | 81 | 356 | 7.3 | 21 / 1.048 | 12 / 0.985 | 32 / 1.392 | 2.3 / 0.059 | 0 / 0.000 | 104 / 1.705 | 27 / 0.562 | 42 / 1.184 | 2.1 / 0.034 | 0.5 / 0.026 | 0.06 | 22 | Fe 0.02 | 212[b] | 40 | 100 | 15 | 15 | | [illegible] |
| Dec 20 1135 | | 53 | 10.1 | 92 | 337 | 7.3 | 21 / 1.048 | 11 / 0.902 | 31 / 1.348 | 2.6 / 0.067 | 0 / 0.000 | 87 / 1.426 | 28 / 0.583 | 42 / 1.184 | 2.3 / 0.037 | 0.5 / 0.026 | 0.09 | 19 | Fe 0.07 | 201[b] | 40 | 97 | 26 | 30 | median 48 minimum 1.3 maximum 7000+ | [illegible] |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Old River at Mandeville Island | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1140 | | 48 | 8.8 | 76 | 268 | 7.1 | 18 / 0.898 | 8.0 / 0.662 | 21 / 0.914 | 2.2 / 0.056 | 0 / 0.000 | 53 / 0.869 | 38 / 0.791 | 26 / 0.733 | 5.4 / 0.087 | 0.4 / 0.021 | 0.17 | 17 | | 162 | 36 | 78 | 35 | 30 | | USGS |
| Feb 15 1140 | | 48 | 9.9 | 85 | 299 | 7.3 | 20 / 0.998 | 7.0 / 0.578 | 27 / 1.174 | 2.0 / 0.051 | 0 / 0.000 | 72 / 1.180 | 30 / 0.625 | 34 / 0.959 | 1.8 / 0.029 | 0.2 / 0.011 | 0.07 | 18 | | 175 | 42 | 79 | 20 | 40 | | USGS |
| Mar 20 0955 | | 54 | 10.0 | 93 | 277 | 7.3 | 16 / 0.798 | 8.3 / 0.682 | 25 / 1.088 | 1.7 / 0.043 | 0 / 0.000 | 72 / 1.180 | 21 / 0.437 | 34 / 0.959 | 1.4 / 0.023 | 0.6 / 0.032 | 0.29 | 19 | | 162 | 42 | 74 | 15 | 24 | | USGS |
| Apr 17 0935 | | 57 | 9.2 | 88 | 363 | 7.3 | 20 / 0.998 | 11 / 0.890 | 35 / 1.522 | 2.0 / 0.051 | 0 / 0.000 | 82 / 1.344 | 32 / 0.666 | 53 / 1.495 | 1.2 / 0.019 | 0.3 / 0.016 | 0.08 | 16 | | 211 | 44 | 94 | 27 | 20 | | USGS |
| May 15 0850 | | 63 | 8.4 | 87 | 138 | 7.1 | 9.6 / 0.479 | 3.9 / 0.321 | 11 / 0.478 | 1.4 / 0.036 | 0 / 0.000 | 45 / 0.738 | 1.0 / 0.021 | 17 / 0.479 | 0.9 / 0.015 | 2.0 / 0.105 | 0.12 | 21 | Fe 0.11; Al 0.15; Cu 0.02; Zn 0.01; $PO_4$ 0.15; (a) | 90[b] | 36 | 40 | 1 | 6 | | USGS |
| June 19 1450 | | 70 | 7.7 | 86 | 151 | 7.4 | 13 / 0.649 | 4.3 / 0.351 | 11 / 0.478 | 1.3 / 0.033 | 0 / 0.000 | 56 / 0.918 | 9.4 / 0.196 | 14 / 0.395 | 1.0 / 0.016 | 0.2 / 0.011 | 0.00 | 15 | Fe 0.14 (a) | 97[b] | 32 | 50 | 4 | 35 | | USGS |
| July 25 0900 | | 74 | 8.2 | 95 | 174 | 7.0 | 12 / 0.599 | 5.1 / 0.421 | 15 / 0.652 | 1.4 / 0.036 | 0 / 0.000 | 60 / 0.983 | 10 / 0.208 | 18 / 0.508 | 0.3 / 0.005 | 0.1 / 0.005 | 0.00 | 13 | | 105[b] | 38 | 51 | 2 | 35 | | USGS |
| Aug 21 0900 | | 70 | 8.2 | 91 | 240 | 7.2 | 14 / 0.699 | 6.7 / 0.549 | 23 / 1.000 | 1.5 / 0.038 | 0 / 0.000 | 72 / 1.180 | 14 / 0.291 | 28 / 0.818 | 0.5 / 0.008 | 0.3 / 0.016 | 0.04 | 13 | | 137[b] | 44 | 62 | 3 | 10 | | USGS |
| Sept 13 0830 | | [illegible] | 8.4 | 93 | 283 | 7.0 | 15 / 0.749 | 8.4 / 0.692 | 28 / 1.218 | 1.7 / 0.043 | 0 / 0.000 | 79 / 1.295 | 16 / 0.333 | 38 / 1.072 | 0.9 / 0.015 | 0.2 / 0.011 | 0.00 | 14 | Fe 0.03; Al 0.10; Cu 0.01; Zn 0.05; $PO_4$ 0.15 (a) | 161[b] | 45 | 72 | 7 | 10 | | USGS |
| Oct 17 1045 | | 67 | 9.0 | 97 | 300 | 7.0 | 18 / 0.898 | 9.0 / 0.742 | 28 / 1.218 | 1.9 / 0.049 | 0 / 0.000 | 94 / 1.541 | 17 / 0.354 | 37 / 1.043 | 0.7 / 0.011 | 0.2 / 0.011 | 0.10 | 16 | Fe 0.03; (a) | 174[b] | 42 | 82 | 5 | | | USGS |
| Nov 20 0820 | | 49 | 10.1 | 88 | 360 | 7.0 | 20 / 1.00 | 10 / 0.84 | 34 / 1.48 | 2.3 / 0.06 | 0 / 0.00 | 91 / 1.49 | 17 / 0.35 | 50 / 1.41 | 1.4 / 0.02 | 0.3 / 0.02 | 0.18 | 17 | Fe 0.05; (a) | 197[b] | 44 | 92 | 17 | 20 | | USGS |
| Dec 18 0815 | | 48 | 9.9 | 85 | 383 | 7.2 | 23 / 1.15 | 11 / 0.93 | 36 / 1.57 | 2.0 / 0.05 | 0 / 0.00 | 96 / 1.57 | 31 / 0.65 | 55 / 1.55 | 2.5 / 0.04 | 0.1 / 0.01 | 0.17 | 21 | | 229[b] | 42 | 104 | 25 | 25 | median 23 minimum 2.3 maximum 2400 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual mean and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mainly analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | | | | | Old River at Orwood Bridge | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 1500 | | 45 | 9.2 | 76 | 682 | 7.3 | 39 / 1.95 | 18 / 1.51 | 67 / 2.91 | 3.5 / 0.09 | 0 / 0.00 | 100 / 1.64 | 92 / 1.92 | 96 / 2.71 | 7.7 / 0.12 | 0.3 / 0.02 | 0.13 | 26 | Fe 0.05 | 398[b] | 45 | 173 | 91 | 20 | | USGS |
| Feb 16 1400 | | 52 | 8.4 | 76 | 759 | | 41 / 2.05 | 19 / 1.55 | 83 / 3.61 | 3.3 / 0.08 | 0 / 0.00 | 125 / 2.05 | 84 / 1.75 | 117 / 3.30 | 3.4 / 0.05 | 0.3 / 0.02 | 0.28 | 23 | Fe 0.05 | 436[b] | 50 | 180 | 78 | 15 | | USGS |
| Mar 16 1230 | | 57 | 9.7 | 93 | 663 | 7.6 | 34 / 1.70 | 17 / 1.38 | 73 / 3.17 | 2.9 / 0.07 | 0 / 0.00 | 98 / 1.61 | 80 / 1.67 | 102 / 2.88 | 2.4 / 0.04 | 0.3 / 0.02 | 0.33 | 18 | Fe 0.07 | 378[b] | 50 | 154 | 74 | 15 | | USGS |
| Apr 20 1200 | | 57 | 8.9 | 85 | 312 | 7.3 | 19 / 0.948 | 10 / 0.852 | 27 / 1.174 | 2.1 / 0.054 | 0 / 0.000 | 88 / 1.442 | 27 / 0.562 | 34 / 0.959 | 1.1 / 0.018 | 0.3 / 0.016 | 0.12 | 19 | Fe 0.13 | 183[b] | 39 | 90 | 18 | | | USGS |
| May 19 1110 | | 68 | 8.2 | 89 | 272 | 7.3 | 19 / 0.948 | 8.9 / 0.732 | 22 / 0.957 | 1.8 / 0.046 | 0 / 0.000 | 80 / 1.311 | 22 / 0.458 | 30 / 0.846 | 1.0 / 0.016 | 0.2 / 0.011 | 0.10 | 20 | Al 0.05; (a) $PO_4$ 0.15 | 164[b] | 36 | 84 | 18 | 50 | | USGS |
| Jun 22 0940 | | 70 | 7.0 | 78 | 269 | 7.2 | 17 / 0.848 | 9.1 / 0.750 | 23 / 1.000 | 1.7 / 0.043 | 0 / 0.000 | 78 / 1.278 | 19 / 0.396 | 32 / 0.903 | 0.7 / 0.011 | 0.3 / 0.01[illegible] | 0.08 | 12 | Fe 0.23 | 153[b] | 38 | 80 | 16 | 45 | | USGS |
| Jul 19 1030 | | 75 | 6.8 | 80 | 266 | 7.3 | 15 / 0.749 | 8.4 / 0.691 | 25 / 1.087 | 2.1 / 0.054 | 0 / 0.000 | 81 / 1.327 | 19 / 0.396 | 31 / 0.874 | 0.6 / 0.010 | 0.2 / 0.011 | 0.14 | 16 | Fe 0.28 | 158[b] | 42 | 72 | 6 | 25 | | USGS |
| Aug 24 1010 | | 75 | 6.8 | 80 | 680 | 7.3 | 21 / 1.05 | 16 / 1.29 | 81 / 3.52 | 3.8 / 0.10 | 0 / 0.00 | 92 / 1.51 | 38 / 0.79 | 136 / 3.84 | 0.8 / 0.01 | 0.2 / 0.01 | 0.13 | 18 | Fe 0.13 | 360[b] | 59 | 117 | 42 | 45 | | USGS |
| Sep [illegible] 1125 | | [illegible] | 6.5 | 71 | 536 | 7.4 | 17 / 0.85 | 15 / 1.25 | 61 / 2.65 | 2.7 / 0.08 | 0 / 0.00 | 100 / 1.64 | 28 / 0.60 | [illegible] | 0.4 / 0.01 | 0.3 / 0.02 | 0.0[illegible] | 19 | Fe 0.13; Al 0.08; Cu 0.01; $PO_4$ 0.15; (a) | 292[b] | 55 | 106 | 53 | 35 | | USGS |
| Oct 19 1500 | | 62 | 6.[illegible] | 69 | 4.6 | 7.3 | 16 / 0.798 | 15 / 1.222 | 45 / 1.958 | 2.8 / 0.072 | 0 / 0.000 | 112 / 1.836 | 23 / 0.479 | 66 / 1.8[illegible] | 0.8 / 0.013 | 0.3 / 0.016 | 0.03 | 22 | Fe 0.10 | 240[b] | 43 | 101 | 9 | 30 | | USGS |
| Nov 25 1010 | | 48 | 9.4 | 81 | 8.8 | 7.3 | 42 / 2.10 | 21 / 1.70 | 95 / 4.13 | 3.8 / 0.10 | 0 / 0.00 | 142 / 2.33 | 67 / 1.39 | 152 / 4.29 | 1.6 / 0.03 | 0.3 / 0.02 | 0.20 | 26 | Fe 0.01 | 479[b] | 51 | 190 | 74 | 15 | | USGS |
| Dec 20 1145 | | 51 | 9.6 | 86 | 694 | 7.3 | 39 / 1.95 | 17 / 1.39 | 73 / 3.18 | 3.9 / 0.10 | 0 / 0.00 | 107 / 1.75 | 73 / 1.52 | 114 / 3.21 | 5.1 / 0.08 | 0.5 / 0.03 | 0.34 | 21 | Fe 0.07 | 400[b] | 48 | 167 | 79 | 25 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Old River at Orwood Bridge | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1115 | | 42 | 9.1 | 78 | 255 | 7.1 | 16 / 0.798 | 7.1 / 0.582 | 22 / 0.957 | 2.2 / 0.056 | 0 / 0.000 | 55 / 0.901 | 28 / 0.583 | 30 / 0.846 | 3.3 / 0.053 | 0.4 / 0.021 | 0.29 | 18 | | 154 | 40 | 69 | 24 | 40 | | USGS |
| Feb 16 1230 | | 44 | 10.3 | 84 | 299 | 7.5 | 18 / 0.898 | 7.2 / 0.594 | 29 / 1.262 | 1.9 / 0.049 | 0 / 0.000 | 71 / 1.164 | 27 / 0.562 | 37 / 1.043 | 1.3 / 0.021 | 0.2 / 0.011 | 0.13 | 17 | | 174 | 45 | 75 | 17 | 55 | | USGS |
| Mar 21 1215 | | 56 | 9.5 | 91 | 375 | 7.3 | 20 / 0.998 | 10 / 0.842 | 34 / 1.479 | 1.8 / 0.046 | 0 / 0.000 | 80 / 1.311 | 23 / 0.479 | 54 / 1.523 | 0.9 / 0.015 | 0.4 / 0.021 | 0.20 | 16 | | 199 | 44 | 92 | 26 | 21 | | USGS |
| Apr 18 0925 | | 56 | 9.2 | 87 | 283 | 7.2 | 15 / 0.748 | 7.9 / 0.652 | 29 / 1.262 | 1.6 / 0.041 | 0 / 0.000 | 67 / 1.098 | 24 / 0.500 | 40 / 1.128 | 1.2 / 0.019 | 0.3 / 0.016 | 0.10 | 16 | | 168 | 47 | 70 | 15 | 20 | | USGS |
| May 16 0815 | | 61 | 8.6 | 87 | 148 | 7.1 | 11 / 0.549 | 3.0 / 0.243 | 14 / 0.609 | 1.3 / 0.033 | 0 / 0.000 | 44 / 0.721 | 10 / 0.208 | 17 / 0.479 | 0.7 / 0.011 | 0.3 / 0.016 | 0.13 | 13 | Fe 0.08; Al 0.03; Cu 0.01; Zn 0.01; $PO_4$ 0.25; (a) | 93[b] | 42 | 40 | 4 | 25 | | USGS |
| June 20 1435 | | 70 | 7.7 | 86 | 151 | 7.3 | 10 / 0.499 | 3.8 / 0.313 | 14 / 0.609 | 1.3 / 0.033 | 0 / 0.000 | 45 / 0.738 | 11 / 0.229 | 18 / 0.508 | 1.0 / 0.016 | 0.3 / 0.016 | 0.03 | 15 | Fe 0.05 (a) | 96[b] | 42 | 41 | 4 | 40 | | USGS |
| July 24 1110 | | 77 | 7.3 | 87 | 183 | 7.2 | 12 / 0.599 | 5.4 / 0.441 | 16 / 0.695 | 1.5 / 0.038 | 0 / 0.000 | 56 / 0.918 | 15 / 0.312 | 20 / 0.564 | 0.6 / 0.010 | 0.2 / 0.011 | 0.00 | 12 | | 111[b] | 39 | 52 | 6 | 45 | | USGS |
| Aug 22 0850 | | 73 | 7.6 | 87 | 245 | 7.1 | 15 / 0.748 | 6.9 / 0.568 | 23 / 1.000 | 1.5 / 0.038 | 0 / 0.000 | 71 / 1.164 | 18 / 0.375 | 30 / 0.846 | 0.7 / 0.011 | 0.3 / 0.016 | 0.08 | 11 | | 141[b] | 42 | 66 | 8 | 10 | | USGS |
| Sept 13 1100 | | 72 | 7.8 | 89 | 294 | 7.0 | 17 / 0.848 | 7.8 / 0.652 | 30 / 1.305 | 1.6 / 0.041 | 0 / 0.000 | 78 / 1.278 | 19 / 0.396 | 40 / 1.128 | 0.7 / 0.011 | 0.3 / 0.016 | 0.15 | 11 | Fe 0.04; Al 0.12; Cu 0.01; $PO_4$ 0.15; (a) | 166[b] | 46 | 75 | 11 | 15 | | USGS |
| Oct 16 1215 | | 68 | 8.3 | 91 | 485 | 7.0 | 26 / 1.297 | 13 / 1.031 | 52 / 2.262 | 2.7 / 0.069 | 0 / 0.000 | 111 / 1.819 | 27 / 0.562 | 77 / 2.171 | 1.0 / 0.016 | 0.3 / 0.016 | 0.09 | 18 | Fe 0.02; (a) | 272[b] | 49 | 116 | 25 | | | USGS |
| Nov 20 1335 | | 51 | 9.2 | 82 | 636 | 7.4 | 33 / 1.65 | 16 / 1.33 | 60 / 2.87 | 2.7 / 0.07 | 0 / 0.00 | 114 / 1.87 | 22 / 0.46 | 116 / 3.27 | 2.1 / 0.03 | 0.3 / 0.02 | 0.25 | 24 | Fe 0.03; (a) | 336[b] | 49 | 144 | 51 | 12 | | USGS |
| Dec 18 1450 | | 50 | 9.2 | 81 | 500 | 7.2 | 28 / 1.40 | 13 / 1.05 | 49 / 2.13 | 2.1 / 0.05 | 0 / 0.00 | 84 / 1.38 | 50 / 1.04 | 80 / 2.26 | 3.7 / 0.06 | 0.1 / 0.01 | 0.17 | 20 | | 297[b] | 46 | 122 | 53 | 50 | median 62 minimum 2.1 maximum 2400 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH) Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Old River near Tracy | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 0825 | | 45 | 8.6 | 72 | 406 | 7.2 | 23 / 1.148 | 9.0 / 0.742 | 45 / 1.957 | 3.9 / 0.100 | 0 / 0.000 | 93 / 1.524 | | 53 / 1.495 | | | 0.07 | | | | 50 | 94 | 18 | 55 | | USGS |
| Feb 21 1055 | | 50 | 9.1 | 80 | 641 | 7.4 | 33 / 1.65 | 16 / 1.31 | 71 / 3.09 | 3.0 / 0.08 | 0 / 0.00 | 107 / 1.75 | | 95 / 2.68 | | | 0.27 | | | | 50 | 148 | 60 | 6 | | USGS |
| Mar 15 1730 | | 55 | 9.8 | 92 | 576 | 7.7 | 22 / 1.10 | 19 / 1.54 | 64 / 2.78 | 1.7 / 0.04 | 0 / 0.00 | 95 / 1.56 | | 92 / 2.59 | | | 0.27 | | | | 51 | 132 | 54 | 30 | | USGS |
| Apr 15 1100 | | 61 | 9.8 | 99 | 1060 | 8.2 | 58 / 2.89 | 25 / 2.03 | 116 / 5.04 | 5.0 / 0.13 | 0 / 0.00 | 172 / 2.82 | | 209 / 5.89 | | | 0.26 | | | | 50 | 246 | 105 | 15 | | USGS |
| May 17 0900 | | 66 | 7.1 | [illegible] | 975 | 8.3 | 50 / 2.50 | 20 / 1.65 | 93 / 4.04 | 4.0 / 0.10 | 0 / 0.00 | 169 / 2.77 | 65 / 1.35 | 150 / 4.23 | 3.7 / 0.06 | 0.3 / 0.02 | 0.21 | 18 | (a) $PO_4$ 0.50 | 487[b] | 49 | 202 | 69 | 20 | | USGS |
| Jun 21 1000 | | 69 | 6.1 | 67 | 457 | 7.4 | 25 / 1.248 | 12 / 1.012 | 42 / 1.826 | 2.6 / 0.067 | 0 / 0.000 | 94 / 1.541 | | 76 / 2.143 | | | 0.13 | | | | 44 | 113 | 36 | 10 | | USGS |
| Jul 19 [illegible] | | 70 | 7.0 | 78 | 1040 | 7.6 | 49 / 2.45 | 31 / 2.51 | 112 / 4.87 | 5.0 / 0.13 | 0 / 0.00 | 167 / 2.74 | | 178 / [illegible] | | | 0.63 | | | | 49 | 248 | 111 | 30 | | USGS |
| Aug 24 1500 | | 77 | 8.1 | 97 | 945 | 7.6 | 44 / 2.20 | 26 / 2.16 | 99 / 4.30 | 5.6 / 0.14 | 0 / 0.00 | 190 / 3.11 | | 170 / 4.79 | | | 0.08 | | | | 49 | 218 | 62 | 45 | | USGS |
| Sep 21 1500 | | 71 | 6.5 | [illegible] | [illegible] | 7.7 | 56 / 2.79 | 22 / 1.77 | 106 / 4.61 | 5.4 / 0.14 | 0 / 0.00 | 192 / 3.26 | 61 / 1.27 | 174 / 4.91 | 2.5 / 0.04 | 0.3 / 0.02 | 0.30 | 23 | Fe 0.02; Al 0.11; Cu 0.01; (a) | 549[b] | 50 | 228 | 45 | 25 | | USGS |
| Oct 18 1440 | | 64 | | | 1090 | 7.9 | 59 / 2.94 | 24 / 1.98 | 120 / 5.22 | 6.4 / 0.16 | 0 / 0.00 | 205 / 3.36 | | 181 / 5.10 | | | 0.35 | | | | 51 | 246 | 74 | 25 | | USGS |
| Nov 22 1045 | | 50 | 5.5 | 48 | 956 | 7.3 | 54 / 2.69 | 21 / 1.75 | 106 / 4.61 | 6.4 / 0.16 | 0 / 0.00 | 182 / 2.98 | | 176 / 4.79 | | | 0.27 | | | | 50 | 222 | 73 | 110 | | USGS |
| Dec 20 1330 | | 54 | 7.2 | 67 | 592 | 7.3 | 34 / 1.70 | 14 / 1.14 | 64 / 2.78 | 4.3 / 0.11 | 0 / 0.00 | 131 / 1.98 | | 96 / 2.71 | | | 0.24 | | | | 49 | 142 | 43 | 20 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 56 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Old River near Tracy** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1410 | | 49 | 9.1 | 79 | 190 | 7.1 | 13 / 0.649 | 5.0 / 0.411 | 15 / 0.652 | 2.5 / 0.064 | 0 / 0.000 | 59 / 0.967 | | 20 / 0.564 | | | 0.14 | | | | 37 | 53 | 5 | 50 | | USGS |
| Feb 15 1400 | | 49 | 9.6 | 84 | 334 | 7.3 | 19 / 0.948 | 9.0 / 0.744 | 32 / 1.392 | 2.0 / 0.051 | 0 / 0.000 | 77 / 1.262 | | 45 / 1.269 | | | 0.15 | | | | 44 | 85 | 22 | 35 | | USGS |
| Mar 20 1210 | | 57 | 9.4 | 91 | 473 | 7.3 | 28 / 1.397 | 12 / 0.963 | 47 / 2.044 | 2.5 / 0.064 | 0 / 0.000 | 100 / 1.639 | | 71 / 2.002 | | | 0.12 | | | | 46 | 118 | 36 | 30 | | USGS |
| Apr 17 1130 | | 58 | 9.4 | 92 | 280 | 7.3 | 16 / 0.798 | 7.4 / 0.606 | 28 / 1.218 | 1.8 / 0.046 | 0 / 0.000 | 69 / 1.131 | | 38 / 1.072 | | | 0.08 | | | | 46 | 70 | 13 | 15 | | USGS |
| May 15 1050 | | 61 | 9.1 | 91 | 146 | 7.3 | 10 / 0.499 | 3.8 / 0.311 | 13 / 0.566 | 1.3 / 0.033 | 0 / 0.000 | 44 / 0.721 | 10 / 0.208 | 17 / 0.479 | 0.9 / 0.015 | 0.4 / 0.021 | 0.00 | 13 | Fe 0.09; Al 0.05; Cr 0.01; Cu 0.01; Cu 0.01; Zn 0.01; (a) $PO_4$ 0.00 | 91[b] | 40 | 40 | 4 | 30 | | USGS |
| June 20 0920 | | 67 | 7.6 | 82 | 163 | 7.3 | 10 / 0.499 | 5.6 / 0.461 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 49 / 0.803 | | 22 / 0.620 | | | 0.15 | | | | 40 | 48 | 8 | 80 | | USGS |
| July 25 1045 | | 81 | 5.4 | 67 | 804 | 7.0 | 44 / 2.20 | 21 / 1.72 | 85 / 3.70 | 3.8 / 0.10 | 0 / 0.00 | 152 / 2.49 | | 141 / 3.98 | | | 0.27 | | | | 48 | 196 | 71 | 25 | | USGS |
| Aug 21 1040 | | 72 | 6.5 | 74 | 734 | 7.5 | 43 / 2.15 | 17 / 1.37 | 78 / 3.39 | 3.8 / 0.10 | 0 / 0.00 | 144 / 2.36 | | 130 / 3.67 | | | 0.16 | | | | 48 | 176 | 58 | 10 | | USGS |
| Sept 14 0940 | | 70 | 7.3 | 81 | 590 | 7.4 | 34 / 1.70 | 13 / 1.04 | 68 / 2.96 | 3.2 / 0.08 | 0 / 0.00 | 130 / 2.13 | 36 / 0.75 | 95 / 2.68 | 2.1 / 0.03 | 0.1 / 0.01 | 0.18 | 21 | Fe 0.01; Al 0.10; Cu 0.01; $PO_4$ 0.45; (a) | 337[b] | 51 | 137 | 30 | 15 | | USGS |
| Oct 17 1245 | | 66 | 8.0 | 85 | 800 | 7.4 | 35 / 1.75 | 13 / 1.06 | 64 / 2.78 | 3.4 / 0.09 | 0 / 0.00 | 135 / 2.21 | | 100 / 2.82 | | | 0.08 | | | | 49 | 140 | 29 | 20 | | USGS |
| Nov 20 1020 | | 48 | 7.2 | 62 | 627 | 7.5 | 34 / 1.70 | 17 / 1.40 | 68 / 2.96 | 3.6 / 0.09 | 0 / 0.00 | 122 / 2.16 | | 102 / 2.88 | | | 0.18 | | | | 43 | 155 | 47 | 7 | | USGS |
| Dec 18 1010 | | 51 | 6.9 | 62 | 489 | 7.3 | 29 / 1.45 | 12 / 0.99 | 50 / 2.18 | 2.8 / 0.07 | 0 / 0.00 | 107 / 1.75 | | 80 / 2.26 | | | 0.00 | | | | 46 | 122 | 34 | 7 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Pit River near Canby | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | No sample | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar 2 1020 | 119 | 36 | 10.5 | 76 | 252 | 7.4 | 19 / 0.948 | 6.7 / 0.552 | 25 / 1.087 | 5.0 / 0.128 | 0 / 0.000 | 135 / 2.212 | | 7.0 / 0.197 | | | 0.00 | | | | 40 | 75 | 0 | 80 | | USGS |
| Apr 1 1020 | 202 | 47 | 9.3 | 79 | 201 | 7.8 | 11 / 0.549 | 9.9 / 0.811 | 18 / 0.783 | 3.5 / 0.090 | 0 / 0.000 | 106 / 1.737 | | 6.4 / 0.181 | | | 0.12 | | | | 35 | 68 | 0 | 60 | | USGS |
| May 11 0800 | 234 | 59 | | | 177 | 7.5 | 15 / 0.749 | 5.0 / 0.411 | 15 / 0.652 | 3.7 / 0.095 | 0 / 0.000 | 97 / 1.590 | 7.1 / 0.148 | 3.0 / 0.085 | 1.3 / 0.021 | 0.4 / 0.021 | 0.13 | 34 | Fe 0.05; Al 0.20; Zn 0.01; Cu 0.01; (a) $PO_4$ 0.25 | 133[b] | 34 | 58 | 0 | 25 | | USGS |
| Jun 15 0800 | 41 | 62 | 7.8 | 80 | 311 | 7.6 | 26 / 1.297 | 8.5 / 0.695 | 29 / 1.261 | 5.7 / 0.146 | 0 / 0.000 | 182 / 2.983 | | 3.7 / 0.104 | | | 0.16 | | | | 37 | 100 | 0 | 20 | | USGS |
| Jul 13 0830 | 25 | 70 | 7.1 | 79 | 303 | 7.6 | 22 / 1.048 | 11 / 0.902 | 30 / 1.305 | 4.9 / 0.125 | 0 / 0.000 | 173 / 2.835 | | 4.0 / 0.113 | | | 0.19 | | | | 39 | 96 | 0 | 40 | | USGS |
| Aug 17 0800 | 5.6 | 59 | 7.2 | [illegible] | 302 | 7.8 | 25 / 1.248 | 10 / 0.822 | 25 / 1.087 | 5.3 / 0.136 | 0 / 0.000 | 183 / 2.999 | | 4.5 / 0.127 | | | 0.10 | | | | 33 | 105 | 0 | 25 | | USGS |
| Sep 14 0800 | 67 | 60 | 7.9 | [illegible] | 275 | 7.4 | 22 / 1.098 | 10 / 0.822 | 21 / 0.913 | 5.1 / 0.130 | 0 / 0.000 | 160 / 2.622 | 5.0 / 0.104 | 4.0 / 0.113 | 0.6 / 0.010 | 0.5 / 0.026 | 0.10 | 32 | Fe 0.06; Al 0.01; (a) | 179[b] | 31 | 96 | 0 | 10 | | USGS |
| Oct 12 0800 | 41 | 51 | 9.8 | 88 | 315 | 7.9 | 22 / 1.098 | 9.4 / 0.774 | 32 / 1.392 | 6.1 / 0.156 | 0 / 0.000 | 177 / 2.901 | | 6.5 / 0.183 | | | 0.18 | | | | 41 | 94 | 0 | 40 | | USGS |
| Nov 16 0800 | 36 | 34 | 11.6 | 92 | [illegible] | 7.1 | 19 / 0.948 | 6.7 / 0.552 | 31 / 1.348 | 5.8 / 0.148 | 0 / 0.000 | 145 / 2.377 | | 5.4 / 0.152 | | | 0.16 | | | | 45 | 75 | 0 | 40 | | USGS |
| Dec | No sample | | | | | | | | | | | | | | | | | | | | | | | | median 23; minimum .62; maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Rit River near Canby** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 1140 | 750 | 54 | 9.0 | 85 | 174 | 7.0 | 15 / 0.748 | 5.5 / 0.452 | 15 / 0.652 | 3.0 / 0.077 | 0 / 0.000 | 100 / 1.639 | 9.0 / 0.187 | 2.5 / 0.070 | 0.6 / 0.010 | 0.2 / 0.011 | 0.02 | 30 | Fe 0.14; Al 0.15; Cr[b] 0.01; $PO_4$ 0.00 (a) | 130[b] | 34 | 60 | 0 | 25 | | USGS |
| June 13 1030 | 195 | 67 | 7.4 | 80 | 187 | 7.7 | 17 / 0.848 | 5.8 / 0.478 | 15 / 0.652 | 3.2 / 0.082 | 0 / 0.000 | 114 / 1.868 | | 0.8 / 0.023 | | | 0.13 | | | | 32 | 66 | 0 | 25 | | USGS |
| July 18 1030 | 124 | 74 | 7.7 | 89 | 189 | 7.7 | 17 / 0.848 | 5.4 / 0.444 | 16 / 0.696 | 3.6 / 0.092 | 0 / 0.000 | 117 / 1.918 | | 1.7 / 0.048 | | | 0.07 | | | | 33 | 65 | 0 | 20 | | USGS |
| Aug 15 1140 | 93 | 67 | 8.0 | 87 | 221 | 7.7 | 18 / 0.898 | 6.7 / 0.554 | 19 / 0.826 | 5.1 / 0.130 | 0 / 0.000 | 126 / 2.065 | | 3.0 / 0.085 | | | 0.10 | | | | 34 | 73 | 0 | 9 | | USGS |
| Sept 19 1115 | 114 | 60 | 8.1 | 81 | 225 | 7.0 | 17 / 0.848 | 8.4 / 0.692 | 20 / 0.870 | 4.6 / 0.118 | 0 / 0.000 | 135 / 2.213 | 12 / 0.250 | 1.5 / 0.042 | 0.9 / 0.015 | 0.2 / 0.011 | 0.10 | 38 | Fe 0.29; Cu 0.02; Zn 0.03; $PO_4$ 0.35; (a) | 170[b] | 34 | 77 | 0 | 20 | | USGS |
| Oct 17 1130 | 138 | 50 | 9.8 | 87 | 270 | 7.7 | 20 / 0.998 | 7.6 / 0.622 | 26 / 1.131 | 5.9 / 0.151 | 0 / 0.000 | 154 / 2.524 | | 5.5 / 0.155 | | | 0.05 | | | | 39 | 81 | 0 | 20 | | USGS |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Pit River near Montgomery Creek** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 10 1400 | 4,020 | 44 | 11.7 | 95 | 148 | 8.0 | 9.7 / 0.484 | 7.3 / 0.604 | 10 / 0.435 | 1.9 / 0.049 | 0 | 90 / 1.475 | | 3.5 / 0.099 | | | 0.0 | | | | 28 | 54 | 0 | 6 | | USGS |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 12 1400 | 4,960 | 60 | 10.0 | 100 | 138 | 7.6 | 12 / 0.599 | 4.9 / 0.401 | 9.2 / 0.400 | 2.2 / 0.056 | 0 / 0.0 | 80 / 1.311 | 3.5 / 0.073 | 3.0 / 0.085 | 0.4 / 0.006 | 0.2 / 0.011 | 0.06 | 29 | Fe 0.08; Al 0.02 (a) $PO_4$ 0.20 | 103[b] | 27 | 50 | 0 | 2 | | USGS |
| Jun 21 1330 | 4,040 | 66 | 9.0 | 96 | 153 | 7.6 | 10 / 0.499 | 7.1 / 0.581 | 11 / 0.478 | 2.3 / 0.059 | 0 / 0.000 | 91 / 1.491 | | 4.0 / 0.113 | | | 0.06 | | | | 30 | 54 | 0 | 1 | | USGS |
| Jul 14 0800 | 2,560 | 64 | 7.2 | 75 | 153 | 7.8 | 12 / 0.599 | 6.3 / 0.521 | 11 / 0.478 | 2.2 / 0.056 | 0 / 0.000 | 92 / 1.508 | | 4.0 / 0.113 | | | 0.11 | | | | 29 | 56 | 0 | 2 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 21 1130 | 4,600 | 48 | 11.2 | 96 | [illegible] | 7.6 | 12 / 0.599 | 4.9 / 0.401 | 9.6 / 0.418 | 2.1 / 0.054 | 0 / 0.000 | 79 / 1.295 | | 4.5 / 0.127 | | | 0.09 | | | | 28 | 50 | 0 | 60 | | USGS |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | median 2.3 minimum .06 maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Pit River near Montgomery Creek** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 16 1030 | 5,400 | 36 | 12.2 | 89 | 143 | 7.7 | 11 / 0.549 | 6.1 / 0.503 | 9.0 / 0.392 | 1.7 / 0.043 | 0 / 0.000 | 82 / 1.344 | | 2.1 / 0.059 | | | 0.03 | | | | 26 | 53 | 0 | 10 | | USGS |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 11 1030 | 7,170 | 54 | 10.7 | 99 | 120 | 7.6 | 10 / 0.499 | 4.9 / 0.401 | .4 / 0.322 | 1.6 / 0.041 | 0 / 0.000 | 74 / 1.213 | | 1.6 / 0.045 | | | 0.07 | | | | 25 | 45 | 0 | 20 | | USGS |
| May 15 1400 | 4,740 | 59 | 9.9 | 97 | 120 | 7.5 | 14 / 0.699 | 3.7 / 0.301 | 7.5 / 0.326 | 1.7 / 0.043 | 0 / 0.000 | 57 / 0.934 | 17 / 0.354 | 2.2 / 0.062 | 0.4 / 0.006 | 0.0 / 0.000 | 0.06 | 23 | Fe 0.04; Al 0.03; Cu 0.01; $FO_4$ 0.10; (a) | 98[b] | 24 | 50 | 3 | 10 | | USGS |
| June 13 1500 | 4,340 | 58 | 10.5 | 102 | 144 | 7.6 | 12 / 0.599 | 5.6 / 0.461 | 9.6 / 0.418 | 2.0 / 0.051 | 0 / 0.000 | 86 / 1.410 | | 3.0 / 0.085 | | | 0.11 | | | | 27 | 53 | 0 | 1 | | USGS |
| July | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 20 0915 | 1,170 | 68 | 7.7 | 84 | 158 | 7.6 | 13 / 0.649 | 6.9 / 0.567 | 10 / 0.435 | 2.0 / 0.051 | 0 / 0.000 | 93 / 1.524 | | 4.0 / 0.113 | | | 0.09 | | | | 26 | 61 | 0 | 0.5 | | USGS |
| Sept | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | median 3.5 minimum .06 maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Putah Creek near Winters | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1445 | 105 | 45 | 12.2 | 100 | 449 | 8.2 | 22 / 1.10 | 41 / 3.37 | 13 / 0.57 | 0.9 / 0.02 | 10 / 0.33 | 240 / 3.93 | | 12 / 0.34 | | | 0.29 | | | | 11 | 224 | 11 | 2 | | USGS |
| Feb 10 1250 | 94 | 50 | 11.7 | 103 | 464 | 8.4 | 24 / 1.20 | 44 / 3.60 | 14 / 0.61 | 1.0 / 0.03 | 12 / 0.40 | 250 / 4.10 | | 10 / 0.28 | | | 0.36 | | | | 11 | 240 | 15 | 0.9 | | USGS |
| Mar 9 1530 | 180 | 50 | 9.9 | 92 | 440 | 8.4 | 23 / 1.15 | 40 / 3.29 | 14 / 0.61 | 1.0 / 0.03 | 9 / 0.30 | 239 / 3.91 | | 10 / 0.28 | | | 0.12 | | | | 12 | 222 | 11 | 5 | | USGS |
| Apr 6 1450 | 61 | 61 | 10.4 | 105 | 517 | 8.4 | 25 / 1.25 | 49 / 3.99 | 18 / 0.78 | 1.6 / 0.04 | 12 / 0.40 | 295 / 4.83 | | 12 / 0.34 | | | 0.52 | | | | 13 | 262 | 0 | 2 | | USGS |
| May 16 1330 | 88 | 70 | 10.4 | 116 | 467 | 8.4 | 24 / 1.20 | 41 / 3.40 | 15 / 0.65 | 1.3 / 0.03 | 0 / 0.00 | 280 / 4.59 | 23 / 0.48 | 10 / 0.28 | 0.5 / 0.01 | 0.1 / 0.01 | 0.38 | 27 | Fe 0.005; (a) $PO_4$ 0.05 | 280[b] | 12 | 230 | 0 | 1 | | USGS |
| Jun 20 1320 | 6.0 | 78 | 9.2 | 111 | 603 | 7.8 | 37 / 1.85 | 48 / 3.93 | 28 / 1.22 | 1.8 / 0.05 | 13 / 0.43 | 334 / 5.47 | | 19 / 0.54 | | | 0.85 | | | | 17 | 289 | 0 | 1 | | USGS |
| Jul 18 1150 | 2.4 | 74 | 9.6 | 111 | 682 | 7.8 | 23 / 1.15 | 65 / 5.33 | 37 / 1.61 | 2.5 / 0.06 | 18 / 0.60 | 372 / 6.10 | | 28 / 0.79 | | | 1.1 | | | | 20 | 324 | 0 | 3 | | USGS |
| Aug 22 1250 | No flow | 80 | 8.5 | 105 | 814 | 8.2 | 33 / 1.65 | 70 / 5.77 | 50 / 2.17 | 3.1 / 0.08 | 25 / 0.83 | 412 / 6.75 | | 46 / 1.30 | | | 1.7 | | | | 22 | 371 | 0 | 80 | | USGS |
| Sep 19 1410 | 3.9 | [illegible] | [illegible] | [illegible] | 789 | [illegible] | 29 / 1.45 | 64 / 5.23 | 55 / 2.39 | 2.6 / 0.07 | 25 / 0.83 | 351 / 5.75 | 54 / 1.12 | [illegible] / 1.41 | 0.2 / 0.00 | 0.4 / 0.02 | 1.7 | 21 | Al 0.21; Cu 0.01; (a) | 476[b] | 26 | 334 | 4 | 5 | | USGS |
| Oct 17 1300 | 0.2 | 65 | 7.7 | 102 | 798 | 8.1 | 27 / 1.85 | 64 / 5.27 | 48 / 2.09 | 2.7 / 0.07 | 13 / 0.43 | 415 / 6.80 | | 25 / 0.99 | | | 1.4 | | | | 23 | 356 | 0 | 7 | | USGS |
| Nov 24 0900 | 4.1 | [illegible] | 11.0 | 102 | 741 | 7.5 | 27 / 1.85 | 59 / 4.89 | 41 / 1.78 | 1.8 / 0.05 | 6 / 0.20 | 384 / 6.29 | | 22 / 0.90 | | | 1.4 | | | | 21 | 337 | 12 | 5 | | USGS |
| Dec 13 1110 | 26 | [illegible] | 11.4 | 9[illegible] | 583 | 8.8 | 27 / 1.35 | 41 / 3.41 | 23 / 1.00 | 1.5 / 0.04 | 0 / 0.00 | 287 / 4.70 | | 18 / 0.51 | | | 0.71 | | | | 17 | 238 | 3 | 1 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .78 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 23 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Putah Creek near Winters | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1650 | 2,440 | 51 | 11.0 | 98 | 334 | 7.4 | 21 / 1.048 | 26 / 2.112 | 10 / 0.435 | 1.2 / 0.031 | 0 / 0.000 | 181 / 2.967 | | 6.0 / 0.169 | | | 0.20 | | | | 12 | 158 | 10 | 60 | | USGS |
| Feb 8 1545 | 920 | 51 | 11.1 | 99 | 527 | 7.2 | 30 / 1.50 | 46 / 3.82 | 17 / 0.74 | 1.1 / 0.03 | 10 / 0.33 | 281 / 4.61 | | 9.5 / 0.27 | | | 0.35 | | | | 12 | 266 | 19 | 15 | | USGS |
| Mar 15 1130 | 654 | 52 | 10.8 | 98 | 581 | 7.4 | 31 / 1.55 | 51 / 4.17 | 21 / 0.91 | 1.0 / 0.03 | 2 / 0.07 | 314 / 5.15 | | 14 / 0.39 | | | 0.38 | | | | 14 | 286 | 25 | 50 | | USGS |
| Apr 12 1140 | 471 | 54 | 10.7 | 99 | 609 | 7.3 | 30 / 1.50 | 57 / 4.70 | 21 / 0.91 | 1.1 / 0.03 | 0 / 0.00 | 357 / 5.85 | | 12 / 0.34 | | | 0.44 | | | | 13 | 310 | 17 | 50 | | USGS |
| May 14 1330 | 179 | 69 | 9.6 | 106 | 569 | 7.7 | 29 / 1.45 | 52 / 4.31 | 20 / 0.87 | 1.4 / 0.04 | 0 / 0.00 | 319 / 5.23 | 40 / 0.83 | 14 / 0.39 | 0.8 / 0.01 | 0.0 / 0.00 | 0.47 | 27 | Al 0.13; Zn 0.01; (a) $PO_4$ 0.00 | 342[b] | 13 | 288 | 26 | 2 | | USGS |
| June 18 1310 | 38 | 76 | 9.2 | 109 | 695 | 7.9 | 39 / 1.95 | 62 / 5.07 | 30 / 1.30 | 2.0 / 0.05 | 0 / 0.00 | 393 / 6.44 | | 21 / 0.59 | | | 0.73 | | | | 16 | 351 | 29 | 3 | | USGS |
| July 23 1400 | 11 | 84 | 9.2 | 118 | 750 | 7.9 | 37 / 1.85 | 67 / 5.47 | 40 / 1.74 | 2.2 / 0.06 | 13 / 0.43 | 409 / 6.70 | | 25 / 0.70 | | | 1.3 | | | | 19 | 366 | 9 | 1 | | USGS |
| Aug 20 1400 | 12 | 76 | 9.3 | 110 | 732 | 7.6 | 30 / 1.50 | 66 / 5.41 | 43 / 1.87 | 2.2 / 0.06 | 0 / 0.00 | 420 / 6.88 | | 25 / 0.70 | | | 1.1 | | | | 21 | 346 | 2 | 1.0 | | USGS |
| Sept 11 1430 | 9.0 | 72 | 9.3 | 108 | 752 | 8.1 | 40 / 2.00 | 65 / 5.32 | 45 / 1.96 | 0.2 / 0.01 | 0 / 0.00 | 437 / 7.16 | 50 / 1.04 | 28 / 0.79 | 0.3 / 0.00 | 0.2 / 0.01 | 1.3 | 27 | Al 0.17; Cu 0.01; $PO_4$ 0.05; (a) | 472[b] | 21 | 366 | 8 | 5 | | USGS |
| Oct 29 1540 | 7.4 | 59 | 10.4 | 121 | 788 | 8.3 | 35 / 1.75 | 69 / 5.57 | 14 / 0.61 | 2.2 / 0.06 | 0 / 0.00 | 448 / 7.34 | | 28 / 0.79 | | | 1.3 | | | | 8 | 366 | 0 | 0.7 | | USGS |
| Nov 13 1330 | 41 | 56 | 13.0 | 123 | 594 | 8.1 | 32 / 1.60 | 52 / 4.24 | 23 / 1.00 | 1.9 / 0.05 | 0 / 0.00 | 350 / 5.74 | | 19 / 0.54 | | | 0.37 | | | | 15 | 292 | 5 | 1.8 | | USGS |
| Dec 12 1240 | 26 | 47 | 13.1 | 111 | 674 | 8.3 | 35 / 1.75 | 61 / 4.99 | 9.3 / 0.40 | 1.5 / 0.04 | 0 / 0.00 | 406 / 6.65 | | 19 / 0.54 | | | 0.86 | | | | 6 | 337 | 4 | 1.0 | median 2.3 minimum .23 maximum 130 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | | | | | Rock Slough near Knightsen | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 20 1550 | | 45 | 10.0 | 82 | 861 | 7.3 | 46 / 2.30 | 25 / 2.02 | 89 / 3.87 | 3.2 / 0.08 | 0 / 0.00 | 110 / 1.80 | | 129 / 3.64 | | | 0.35 | | | | 47 | 216 | 126 | 15 | | USGS |
| Feb 16 1220 | | 51 | 8.4 | 75 | 846 | 7.2 | 41 / 2.05 | 24 / 1.99 | 91 / 3.96 | 3.4 / 0.09 | 0 / 0.00 | 128 / 2.10 | | 129 / 3.64 | | | 0.46 | | | | 49 | 202 | 97 | 10 | | USGS |
| Mar 16 1400 | | 55 | 9.9 | 93 | 746 | 7.6 | 35 / 1.75 | 20 / 1.63 | 80 / 3.48 | 3.0 / 0.08 | 0 / 0.00 | 114 / 1.87 | | 116 / 3.27 | | | 0.39 | | | | 50 | 169 | 76 | 35 | | USGS |
| Apr 20 1330 | | 58 | 8.5 | 82 | 320 | 7.2 | 20 / 0.998 | 10 / 0.842 | 27 / 1.174 | 2.0 / 0.051 | 0 / 0.000 | 92 / 1.508 | | 35 / 0.987 | | | 0.16 | | | | 38 | 92 | 17 | 30 | | USGS |
| May 19 0950 | | 70 | 5.9 | 66 | 277 | 7.2 | 20 / 0.998 | 7.8 / 0.642 | 24 / 1.044 | 2.5 / 0.064 | 0 / 0.000 | 84 / 1.377 | 24 / 0.500 | 28 / 0.790 | 0.7 / 0.011 | 0.3 / 0.016 | 0.10 | 17 | Al 0.06; (a) $PO_4$ 0.15 | 165[b] | 38 | 82 | 13 | 40 | | USGS |
| Jun 22 0920 | | 71 | 7.0 | 79 | 211 | 7.2 | 15 / 0.749 | 7.2 / 0.591 | 17 / 0.739 | 1.5 / 0.038 | 0 / 0.000 | 36 / 0.590 | | 18 / 0.508 | | | 0.09 | | | | 35 | 67 | 37 | 35 | | USGS |
| Jul 19 1115 | | 75 | 6.1 | 72 | 273 | 7.0 | 15 / 0.749 | 9.1 / 0.751 | 28 / 1.218 | 2.6 / 0.067 | 0 / 0.000 | 78 / 1.278 | | 30 / 0.846 | | | 0.09 | | | | 44 | 75 | 11 | 35 | | USGS |
| Aug 24 1120 | | 73 | 6.3 | 72 | 723 | 7.3 | 20 / 1.00 | 17 / 1.42 | 91 / 3.96 | 4.2 / 0.11 | 0 / 0.00 | 94 / 1.54 | | 152 / 4.29 | | | 0.30 | | | | 61 | 121 | 44 | 25 | | USGS |
| Sep 22 1225 | | 69 | 5.7 | 63 | 579 | 7.3 | 20 / 1.00 | 15 / 1.20 | 68 / 2.96 | 3.7 / 0.09 | 0 / 0.00 | 101 / 1.66 | 29 / 0.60 | 108 / 3.07 | 0.3 / 0.00 | 0.2 / 0.01 | 0.08 | 19 | Fe 0.07; Al 0.12; Cu 0.01; (a) | 314[b] | 56 | 110 | 27 | 45 | | USGS |
| Oct 19 1615 | | 63 | 6.9 | 70 | 414 | 7.3 | 19 / 0.949 | 13 / 1.076 | 45 / 1.958 | 2.8 / 0.072 | 0 / 0.000 | 114 / 1.868 | | 58 / 1.636 | | | 0.22 | | | | 48 | 101 | 8 | 40 | | USGS |
| Nov 23 0945 | | 48 | 8.5 | 73 | 496 | 7.1 | 25 / 1.248 | 14 / 1.192 | 54 / 2.349 | 3.0 / 0.077 | 0 / 0.000 | 118 / 1.934 | | 71 / 2.002 | | | 0.27 | | | | 48 | 122 | 25 | 110 | | USGS |
| Dec 21 1300 | | 54 | 9.5 | 89 | 696 | 7.3 | 36 / 1.80 | 18 / 1.48 | 76 / 3.31 | 3.7 / 0.09 | 0 / 0.00 | 122 / 2.00 | | 113 / 3.19 | | | 0.37 | | | | 50 | 164 | 64 | 30 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 22 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 1.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Rock Slough near Knightsen | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1300 | | 49 | 8.1 | 71 | 521 | 7.1 | 25 / 1.248 | 14 / 1.192 | 51 / 2.218 | 2.7 / 0.069 | 0 / 0.000 | 74 / 1.213 | | 72 / 2.030 | | | 0.52 | | | | 47 | 122 | 61 | 40 | | USGS |
| Feb 16 1350 | | 44 | 10.6 | 86 | 467 | 7.3 | 22 / 1.098 | 14 / 1.142 | 51 / 2.218 | 2.3 / 0.059 | 0 / 0.000 | 95 / 1.557 | | 63 / 1.777 | | | 0.34 | | | | 49 | 112 | 34 | 65 | | USGS |
| Mar 21 1345 | | 58 | 8.5 | 83 | 408 | 7.3 | 22 / 1.098 | 11 / 0.902 | 40 / 1.740 | 2.0 / 0.051 | 0 / 0.000 | 88 / 1.442 | | 56 / 1.579 | | | 0.26 | | | | 46 | 100 | 28 | 40 | | USGS |
| Apr 18 1020 | | 60 | 7.4 | 74 | 542 | 7.3 | 27 / 1.35 | 14 / 1.19 | 60 / 2.61 | 2.6 / 0.07 | 0 / 0.00 | 103 / 1.69 | | 86 / 2.43 | | | 0.29 | | | | 50 | 127 | 43 | 20 | | USGS |
| May 16 0925 | | 66 | 6.2 | 66 | 171 | 7.0 | 12 / 0.599 | 3.7 / 0.301 | 16 / 0.696 | 1.5 / 0.038 | 0 / 0.000 | 50 / 0.820 | 14 / 0.291 | 19 / 0.536 | 0.8 / 0.013 | 0.3 / 0.016 | 0.13 | 14 | $Fe^{+3}$ 0.17; Al 0.11; Cu 0.01; Zn 0.01; $PO_4$ 0.35; (a) | 107[b] | 42 | 45 | 4 | 15 | | USGS |
| June 20 1540 | | 75 | 5.9 | 69 | 148 | 7.1 | 9.2 / 0.459 | 3.9 / 0.321 | 13 / 0.566 | 1.4 / 0.036 | 0 / 0.000 | 48 / 0.787 | | 17 / 0.479 | | | 0.04 | | | | 41 | 39 | 0 | | | USGS |
| July 24 1150 | | 79 | 5.8 | 71 | 182 | 6.8 | 12 / 0.599 | 5.6 / 0.457 | 16 / 0.696 | 1.5 / 0.038 | 0 / 0.000 | 58 / 0.951 | | 20 / 0.564 | | | 0.19 | | | | 39 | 53 | 5 | 20 | | USGS |
| Aug 22 0945 | | 73 | 6.4 | 74 | 242 | 7.1 | 15 / 0.748 | 7.1 / 0.580 | 23 / 1.000 | 1.5 / 0.038 | 0 / 0.000 | 71 / 1.164 | | 29 / 0.818 | | | 0.06 | | | | 42 | 66 | 8 | 10 | | USGS |
| Sept 13 1150 | | 71 | 7.4 | 83 | 304 | 7.2 | 15 / 0.748 | 9.3 / 0.764 | 30 / 1.305 | 2.0 / 0.051 | 0 / 0.000 | 78 / 1.278 | 21 / 0.437 | 42 / 1.184 | 0.6 / 0.010 | 0.0 / 0.000 | 0.04 | 13 | Fe 0.01; Cu 0.01; Zn 0.01; $PO_4$ 0.15; Al 0.13; (a) | 171[b] | 46 | 76 | 12 | 20 | | USGS |
| Oct 16 1300 | | 67 | 7.2 | 78 | 371 | 7.2 | 21 / 1.048 | 9.6 / 0.792 | 36 / 1.566 | 2.1 / 0.054 | 0 / 0.000 | 96 / 1.573 | | 51 / 1.438 | | | 0.18 | | | | 45 | 92 | 13 | 20 | | USGS |
| Nov 21 0835 | | 47 | 9.5 | 81 | 661 | 7.5 | 34 / 1.70 | 17 / 1.40 | 72 / 3.13 | 3.4 / 0.09 | 0 / 0.00 | 128 / 2.10 | | 109 / 3.07 | | | 0.19 | | | | 50 | 155 | 50 | 10 | | USGS |
| Dec 19 0830 | | 48 | 8.9 | 77 | 519 | 7.2 | 28 / 1.40 | 8.3 / 0.68 | 54 / 2.35 | 2.1 / 0.05 | 0 / 0.00 | 94 / 1.54 | | 80 / 2.26 | | | 0.18 | | | | 52 | 104 | 27 | 10 | median 23 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 1.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Sacramento River at Delta** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1700 | [illegible] | 36 | 13.0 | 94 | 115 | 7.5 | 8.0 / 0.399 | 6.3 / 0.521 | 6.4 / 0.278 | 0.7 / 0.018 | 0 / 0.000 | 63 / 1.032 | | 6.0 / 0.169 | | | 0.08 | | | | 23 | 46 | 0 | 1 | | USGS |
| Feb 10 0930 | 629 | 38 | 12.2 | 91 | 116 | 7.9 | 5.7 / 0.284 | 8.0 / 0.660 | 5.7 / 0.248 | 0.6 / 0.015 | 0 | 64 / 1.049 | | 4.4 / 0.124 | | | 0.06 | | | | 21 | 47 | 0 | 4 | | USGS |
| Mar 10 1100 | 646 | 48 | 11.7 | 100 | 115 | 7.7 | 6.1 / 0.304 | 7.5 / 0.616 | 5.7 / 0.248 | 0.7 / 0.018 | 0 | 64 / 1.049 | | 3.9 / 0.110 | | | 0.04 | | | | 21 | 46 | 0 | 2 | | USGS |
| Apr 14 1530 | 782 | 49 | 11.8 | 101 | 102 | 7.8 | 5.7 / 0.284 | 7.0 / 0.576 | 4.1 / 0.178 | 0.5 / 0.013 | 0 / 0.000 | 59 / 0.967 | | 3.2 / 0.090 | | | 0.10 | | | | 17 | 43 | 0 | 2 | | USGS |
| May 16 1300 | 1240 | 54 | 10.9 | 101 | 87.2 | 7.5 | 5.7 / 0.284 | 6.0 / 0.496 | 3.2 / 0.139 | 0.4 / 0.010 | 0 / 0.000 | 53 / 0.869 | 2.5 / 0.052 | 2.0 / 0.056 | 0.1 / 0.002 | 0.1 / 0.005 | 0.04 | 18 | Fe 0.01; Al 0.005 (a) $PO_4$ 0.05 | 64[b] | 15 | 39 | 0 | 0.4 | | USGS |
| Jun 22 1330 | 358 | 64 | 10.1 | 105 | 127 | 7.6 | 7.2 / 0.359 | 7.8 / 0.641 | 6.9 / 0.300 | 0.7 / 0.018 | 0 / 0.000 | 72 / 1.180 | | 5.5 / 0.155 | | | 0.12 | | | | 23 | 50 | 0 | 1 | | USGS |
| Jul 13 0900 | 248 | 67 | 9.5 | 102 | 141 | 7.6 | 8.9 / 0.444 | 7.5 / 0.616 | 8.8 / 0.383 | 0.9 / 0.023 | 0 / 0.000 | 77 / 1.262 | | 6.5 / 0.183 | | | 0.28 | | | | 26 | 53 | 0 | 2 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 1[illegible] 1[illegible] | 198 | [illegible] | 9.6 | 97 | 163 | [illegible] | 11 / .549 | 6.4 / 0.525 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 84 / 1.377 | 5.[illegible] / 0.104 | 8.9 / 0.251 | 0.1 / 0.002 | 0.1 / 0.005 | 0.25 | 29 | Fe 0.02; Al 0.01; Cu 0.01; Zn 0.01; (a) | 118[b] | 37 | 54 | 0 | 0 | | USGS |
| Oct 14 [illegible] | 191 | 56 | 9.9 | 94 | 159 | 7.5 | 9.7 / 0.484 | 7.4 / 0.608 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 82 / 1.344 | | 8.2 / 0.231 | | | 0.28 | | | | 32 | 55 | 0 | 2 | | USGS |
| Nov 16 1[illegible] | 232 | 38 | 10.1 | 98 | 153 | 7.6 | 8.8 / 0.439 | 7.3 / 0.601 | 11 / 0.478 | 1.3 / 0.033 | 0 / 0.000 | 77 / 1.[illegible] | | 10 / [illegible] | | | 0.18 | | | | 31 | 52 | 0 | 20 | | USGS |
| Dec 16 1330 | 656 | 46 | 11.6 | 97 | 116 | 7.6 | 7.6 / 0.379 | 6.6 / 0.541 | 6.4 / 0.278 | 0.8 / 0.020 | 0 / 0.000 | 63 / 1.033 | | 5.0 / 0.141 | | | 0.17 | | | | 23 | 46 | 0 | 3 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 9.6 minimum .046 maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Sacramento River at Delta | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1215 | 8,320 | 46 | 10.5 | 88 | 59.7 | 7.4 | 3.9 / 0.195 | 4.0 / 0.325 | 1.7 / 0.074 | 0.2 / 0.005 | 0 / 0.000 | 35 / 0.574 | | 0.0 / 0.000 | | | 0.02 | | | | 12 | 26 | 0 | 30 | | USGS |
| Feb 15 0930 | 1,150 | 36 | 12.3 | 90 | 94.5 | 7.5 | 6.0 / 0.299 | 5.6 / 0.461 | 4.2 / 0.183 | 0.5 / 0.013 | 0 / 0.000 | 53 / 0.869 | | 1.6 / 0.045 | | | 0.06 | | | | 19 | 38 | 0 | 35 | | USGS |
| Mar 13 0900 | 1,460 | 39 | 12.2 | 93 | 86.4 | 7.4 | 6.4 / 0.319 | 5.4 / 0.441 | 3.2 / 0.139 | 0.5 / 0.013 | 0 / 0.000 | 50 / 0.820 | | 2.2 / 0.062 | | | 0.01 | | | | 15 | 38 | 0 | 10 | | USGS |
| Apr 9 1500 | 2,030 | 50 | 10.4 | 92 | 81.5 | 7.6 | 5.2 / 0.259 | 6.8 / 0.561 | 2.5 / 0.109 | 0.5 / 0.013 | 0 / 0.000 | 53 / 0.869 | | 1.8 / 0.051 | | | 0.08 | | | | 12 | 41 | 0 | 5 | | USGS |
| May 16 1230 | 2,110 | 57 | 10.8 | 104 | 73.1 | 7.5 | 5.6 / 0.279 | 5.8 / 0.481 | 2.0 / 0.087 | 0.5 / 0.013 | 0 / 0.000 | 48 / 0.787 | 1.0 / 0.021 | 1.0 / 0.028 | 0.0 / 0.000 | 0.2 / 0.011 | 0.07 | 12 | Fe 0.01; Al 0.04; Cu 0.01; $PO_4$ 0.05; (a) | 52[b] | 10 | 38 | 0 | 2 | | USGS |
| June 13 1500 | 1,010 | 60 | 9.1 | 91 | 83.0 | 7.6 | 3.8 / 0.190 | 6.5 / 0.534 | 3.1 / 0.135 | 0.5 / 0.013 | 0 / 0.000 | 49 / 0.803 | | 1.6 / 0.045 | | | 0.02 | | | | 15 | 36 | 0 | 1 | | USGS |
| July 12 0900 | 430 | 65 | 8.1 | 86 | 119 | 7.6 | 7.2 / 0.359 | 8.1 / 0.669 | 6.8 / 0.296 | 1.0 / 0.026 | 0 / 0.000 | 72 / 1.180 | | 4.1 / 0.116 | | | 0.05 | | | | 22 | 51 | 0 | 2 | | USGS |
| Aug 21 1000 | 247 | 67 | 8.3 | 90 | 144 | 7.6 | 8.0 / 0.399 | 8.0 / 0.661 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 81 / 1.328 | | 7.0 / 0.197 | | | 0.07 | | | | 28 | 53 | 0 | 3 | | USGS |
| Sept 18 1330 | 235 | 60 | 8.4 | 94 | 146 | 7.6 | 9.2 / 0.459 | 6.8 / 0.561 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 80 / 1.311 | 2.3 / 0.048 | 6.2 / 0.175 | 0.5 / 0.008 | 0.3 / 0.016 | 0.16 | 41 | Fe 0.02; Al 0.04; Cu 0.01; As 0.01; (a) | 118[b] | 31 | 51 | 0 | 3 | | USGS |
| Oct 15 1605 | 250 | 57 | 10.2 | 98 | 147 | 7.6 | 8.9 / 0.444 | 7.5 / 0.616 | 10 / 0.435 | 1.2 / 0.031 | 0 / 0.000 | 81 / 1.328 | | 7.8 / 0.220 | | | 0.21 | | | | 29 | 53 | 0 | 2 | | USGS |
| Nov 16 1015 | 276 | 46 | 11.4 | 96 | 144 | 7.6 | 8.0 / 0.399 | 7.5 / 0.613 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 78 / 1.278 | | 7.0 / 0.197 | | | 0.15 | | | | 29 | 51 | 0 | 0.6 | | USGS |
| Dec 14 1515 | 286 | 47 | 12.0 | 102 | 145 | 7.6 | 8.3 / 0.41 | 8.4 / 0.69 | 9.6 / 0.42 | 1.1 / 0.03 | 0 / 0.00 | 80 / 1.31 | | 7.1 / 0.20 | | | 0.19 | | | | 27 | 55 | 0 | 0.8 | median 23 minimum .62 maximum 230 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Sacramento River near Hamilton City** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1000 | 1,300 | 43 | 11.3 | 91 | 130 | 7.4 | 11 / 0.549 | 4.9 / 0.401 | 6.8 / 0.296 | 1.0 / 0.026 | 0 / 0.000 | 66 / 1.082 | | 4.8 / 0.135 | | | 0.00 | | | | 23 | 48 | 0 | 7 | | USGS |
| Feb 7 1800 | 7,400 | 48 | 10.8 | 93 | 158 | 7.4 | 15 / 0.749 | 6.7 / 0.551 | 8.3 / 0.383 | 1.2 / 0.031 | 0 / 0.000 | 84 / 1.377 | | 5.0 / 0.141 | | | 0.06 | | | | 22 | 65 | 0 | 1 | | USGS |
| Mar 7 1100 | 5,320 | 53 | 10.3 | 94 | 161 | 7.4 | 14 / 0.699 | 6.8 / 0.561 | 9.5 / 0.413 | 1.5 / 0.038 | 0 / 0.000 | 84 / 1.377 | | 5.0 / 0.141 | | | 0.10 | | | | 24 | 63 | 0 | 1 | | USGS |
| Apr 4 1000 | 5,140 | 52 | 10.4 | 94 | 144 | 7.6 | 12 / 0.599 | 6.1 / 0.505 | 8.7 / 0.378 | 1.5 / 0.038 | 0 / 0.000 | 78 / 1.278 | | 3.2 / 0.090 | | | 0.06 | | | | 25 | 55 | 0 | 2 | | USGS |
| May 12 0900 | 7,550 | 65 | 8.3 | 87 | 134 | 7.4 | 12 / 0.599 | 5.4 / 0.441 | 6.9 / 0.300 | 1.3 / 0.033 | 0 / 0.000 | 70 / 1.147 | 7.3 / 0.152 | 4.2 / 0.118 | 0.3 / 0.005 | 0.0 / 0.000 | 0.04 | 25 | Fe 0.04; Zn 0.01; (a) | 96[b] | 22 | 52 | 0 | 4 | | USGS |
| Jun 16 0820 | 6,802 | 59 | 9.8 | 96 | 133 | 7.5 | 13 / 0.649 | 3.9 / 0.319 | 7.8 / 0.339 | 1.5 / 0.038 | 0 / 0.000 | 72 / 1.180 | | 3.2 / 0.090 | | | 0.08 | | | | 25 | 48 | 0 | 1 | | USGS |
| Jul 14 0800 | 8,980 | 58 | 9.9 | 96 | 129 | 7.4 | 11 / 0.549 | 5.2 / 0.431 | 7.7 / 0.335 | 1.3 / 0.033 | 0 / 0.000 | 73 / 1.196 | | 3.2 / 0.090 | | | 0.10 | | | | 25 | 49 | 0 | 1 | | USGS |
| Aug 18 0840 | 7,790 | 58 | 9.7 | 95 | 133 | 7.4 | 12 / 0.599 | 5.1 / 0.421 | 7.4 / 0.322 | 1.6 / 0.041 | 0 / 0.000 | 74 / 1.213 | | 3.2 / 0.090 | | | 0.00 | | | | 23 | 51 | 0 | 20 | | USGS |
| Sep 15 1500 | 6,850 | 59 | 9.5 | 93 | 127 | 7.4 | 11 / 0.549 | 5.3 / 0.435 | 6.0 / 0.261 | 1.3 / 0.033 | 0 / 0.000 | 70 / 1.147 | 5.2 / 0.108 | 2.0 / 0.056 | 0.2 / 0.003 | 0.2 / 0.011 | 0.01 | 27 | Fe 0.03; Al 0.07; Cu 0.02; Zn 0.02; (a) | 92[b] | 20 | 49 | 0 | 1 | | USGS |
| Oct 13 0850 | 5,390 | 59 | 9.5 | 93 | 132 | 7.4 | 11 / 0.549 | 6.0 / 0.495 | 7.1 / 0.309 | 1.4 / 0.036 | 0 / 0.000 | 71 / 1.164 | | 1.9 / 0.054 | | | 0.07 | | | | 22 | 52 | 0 | 4 | | USGS |
| Nov 17 0850 | 5,950 | 49 | 10.5 | 92 | 144 | 7.0 | 12 / 0.599 | 5.6 / 0.457 | 9.0 / 0.392 | 1.6 / 0.041 | 0 / 0.000 | 79 / 1.295 | | 3.4 / 0.096 | | | 0.06 | | | | 26 | 53 | 0 | 3 | | USGS |
| Dec 14 1600 | 6,290 | 50 | 11.1 | 98 | 157 | 6.8 | 14 / 0.699 | 6.1 / 0.501 | 8.4 / 0.365 | 1.4 / 0.036 | 0 / 0.000 | 75 / 1.229 | | 6.5 / 0.183 | | | 0.03 | | | | 23 | 60 | 0 | 4 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River near Hamilton City | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1000 | Recorder removed due to flood | 47 | 11.0 | 93 | 98.5 | 6.8 | 11 / 0.549 | 3.1 / 0.251 | 4.2 / 0.183 | 1.1 / 0.028 | 0 / 0.000 | 52 / 0.852 | | 0.0 / 0.000 | | | 0.10 | | | | 18 | 40 | 0 | 350 | | USGS |
| Feb 7 1100 | | 46 | 11.6 | 97 | 142 | 6.8 | 13 / 0.649 | 6.3 / 0.515 | 6.6 / 0.287 | 1.1 / 0.028 | 0 / 0.000 | 73 / 1.196 | | 2.0 / 0.056 | | | 0.01 | | | | 19 | 58 | 0 | 60 | | USGS |
| Mar 13 1110 | | 46 | 11.3 | 95 | 144 | 7.0 | 14 / 0.699 | 5.7 / 0.465 | 6.1 / 0.265 | 1.0 / 0.026 | 0 / 0.000 | 74 / 1.213 | | 1.9 / 0.054 | | | 0.06 | | | | 18 | 58 | 0 | 20 | | USGS |
| Apr 10 1100 | * | 56 | 10.0 | 95 | 138 | 6.9 | 15 / 0.748 | 4.3 / 0.356 | 6.6 / 0.287 | 1.4 / 0.036 | 0 / 0.000 | 76 / 1.246 | | 1.2 / 0.034 | | | 0.05 | | | | 20 | 55 | 0 | 15 | | USGS |
| May 8 1030 | * | 52 | 10.7 | 97 | 108 | 6.9 | 10 / 0.499 | 4.7 / 0.385 | 5.3 / 0.231 | 1.0 / 0.026 | 0 / 0.000 | 60 / 0.983 | 4.2 / 0.087 | 1.4 / 0.039 | 0.5 / 0.008 | 0.3 / 0.016 | 0.02 | 22 | Fe 0.15; Al 0.14; Zn 0.02; As 0.01; Cu 0.07; $PO_4$ 0.1; (a) | 80[b] | 20 | 44 | 0 | 75 | | USGS |
| June 12 0930 | * | 60 | 9.1 | 91 | 117 | 7.3 | 11 / 0.549 | 4.6 / 0.379 | 5.6 / 0.244 | 1.2 / 0.031 | 0 / 0.000 | 62 / 1.016 | | 2.3 / 0.065 | | | 0.00 | | | | 20 | 46 | 0 | 9 | | USGS |
| July 17 0915 | 6,360 | 60 | 10.2 | 102 | 109 | 7.3 | 10 / 0.499 | 5.8 / 0.473 | 5.6 / 0.244 | 1.2 / 0.031 | 0 / 0.000 | 62 / 1.016 | | 2.0 / 0.056 | | | 0.02 | | | | 20 | 49 | 0 | 7 | | USGS |
| Aug 14 0930 | 6,980 | 58 | 10.5 | 102 | 108 | 7.3 | 11 / 0.549 | 3.7 / 0.307 | 5.5 / 0.000 | 2.1 / 0.054 | 0 / 0.000 | 62 / 1.016 | | 0.8 / 0.023 | | | 0.00 | | | | 21 | 43 | 0 | 5 | | USGS |
| Sept 1 0930 | 7,740 | 57 | 10.1 | 97 | 108 | 6.8 | 9.8 / 0.489 | 4.5 / 0.371 | 5.4 / 0.235 | 1.0 / 0.026 | 0 / 0.000 | 63 / 1.033 | 2.9 / 0.060 | 0.7 / 0.020 | 0.2 / 0.003 | 0.3 / 0.016 | 0.00 | 22 | Fe 0.05; Al 0.04; Cu 0.01; Zn 0.01; (a) | 78[b] | 21 | 43 | 0 | 4 | | USGS |
| Oct 16 1020 | 7,320 | 54 | 10.5 | 98 | 114 | 7.5 | 10 / 0.499 | 5.7 / 0.465 | 6.1 / 0.265 | 1.0 / 0.026 | 0 / 0.000 | 66 / 1.082 | | 2.6 / 0.073 | | | 0.07 | | | | 21 | 48 | 0 | 3 | | USGS |
| Nov 19 1515 | 7,370 | 50 | 11.2 | 99 | 124 | 6.8 | 10 / 0.499 | 5.5 / 0.453 | 6.9 / 0.300 | 1.4 / 0.036 | 0 / 0.000 | 71 / 1.164 | | 2.4 / 0.068 | | | 0.03 | | | | 23 | 48 | 0 | 3 | | USGS |
| Dec 11 0935 | 7,340 | 46 | 11.3 | 95 | 138 | 7.3 | 12 / 0.60 | 5.8 / 0.48 | 8.2 / 0.36 | 1.7 / 0.04 | 0 / 0.00 | 79 / 1.29 | | 3.9 / 0.11 | | | 0.04 | | | | 24 | 54 | 0 | 2 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 96 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 13 | |
| * No Record | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Sacramento River at Keswick | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1400 | 8,620 | 48 | 10.03 | 96 | 110 | 7.0 | 11 / 0.549 | 3.5 / 0.291 | 6.0 / 0.261 | 1.0 / 0.026 | 0 / 0.00 | 57 / 0.934 | | 3.0 / 0.085 | | | 0.02 | | | | 23 | 42 | 0 | 4 | | USGS |
| Feb 1 1130 | 4,290 | 46 | 10.1 | 94 | 133 | 7.2 | 9.7 / 0.484 | 6.2 / 0.512 | 7.9 / 0.344 | 1.8 / 0.046 | 0 / 0.000 | 73 / 1.196 | | 2.8 / 0.079 | | | 0.00 | | | | 25 | 50 | 0 | 6 | | USGS |
| Mar 8 1600 | 3,130 | 50 | 10.0 | 106 | 118 | 7.3 | 8.8 / 0.439 | 5.6 / 0.461 | 7.0 / 0.304 | 1.9 / 0.049 | 0 | 67 / 1.098 | | 2.9 / 0.082 | | | 0.0 | | | | 24 | 45 | 0 | 2 | | USGS |
| Apr 14 1230 | 6,840 | 50 | 11.4 | 100 | 127 | 7.3 | 11 / 0.549 | 4.8 / 0.391 | 7.3 / 0.317 | 1.5 / 0.038 | 0 / 0.000 | 71 / 1.164 | | 3.5 / 0.099 | | | 0.06 | | | | 24 | 47 | 0 | 2 | | USGS |
| May 12 0900 | 6,300 | 56 | 11.9 | 105 | 127 | 7.6 | 11 / 0.549 | 4.8 / 0.391 | 7.3 / 0.317 | 1.5 / 0.038 | 0 / 0.000 | 67 / 1.098 | 8.0 / 0.167 | 3.0 / 0.085 | 0.2 / 0.003 | 0.1 / 0.005 | 0.06 | 25 | Fe 0.05; Al 0.02; Zn 0.005; $PO_4$ 0.05; (a) | 94[b] | 24 | 47 | 0 | 1 | | USGS |
| Jun 20 1600 | 9,090 | 57 | 10.0 | 88 | 124 | 7.4 | 11 / 0.549 | 4.8 / 0.391 | 6.9 / 0.300 | 1.3 / 0.033 | 0 / 0.000 | 70 / 1.147 | | 2.8 / 0.079 | | | 0.04 | | | | 24 | 47 | 0 | 1 | | USGS |
| Jul 18 1700 | 11,300 | 67 | 9.4 | 94 | 125 | 7.3 | 11 / 0.549 | 5.0 / 0.411 | 7.3 / 0.317 | 1.4 / 0.036 | 0 / 0.000 | 71 / 1.164 | | 3.0 / 0.085 | | | 0.07 | | | | 24 | 48 | 0 | 0.4 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 13 2000 | 7,760 | 52 | 9.2 | 83 | 119 | 7.2 | 12 / 0.599 | 3.7 / 0.303 | 5.6 / 0.244 | 1.3 / 0.033 | 0 / 0.000 | 66 / 1.082 | 3.0 / 0.062 | 1.8 / 0.051 | 0.1 / 0.002 | 0.1 / 0.005 | 0.09 | 24 | Al 0.03; Cu 0.02; Zn 0.02 (a) | 85[b] | 21 | 45 | 0 | 1 | | USGS |
| Oct 13 1600 | 6,340 | 55 | 8.9 | 84 | 119 | 7.2 | 10 / 0.499 | 6.0 / 0.497 | 6.0 / 0.261 | 1.4 / 0.036 | 0 / 0.000 | 68 / 1.115 | | 1.3 / 0.042 | | | 0.11 | | | | 20 | 50 | 0 | 2 | | USGS |
| Nov 16 1100 | 4,350 | 56 | 9.2 | 87 | 121 | 7.2 | 11 / 0.549 | 4.8 / 0.391 | 6.8 / 0.296 | 1.6 / 0.041 | 0 / 0.000 | 67 / 1.098 | | 3.5 / 0.099 | | | 0.01 | | | | 23 | 47 | 0 | 20 | | USGS |
| Dec 12 1600 | 1,110 | 54 | 8.8 | 81 | 138 | 7.0 | 10 / 0.499 | 6.1 / 0.505 | 8.0 / 0.348 | 1.6 / 0.041 | 0 / 0.000 | 71 / 1.164 | | 3.0 / 0.085 | | | 0.17 | | | | 25 | 50 | 0 | | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 0.36 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | Sacramento River at Keswick | | | | | | | | | | | | | | | | | | | |
| Jan 11 1215 | 37,300 | 42 | 11.8 | 93 | 97.8 | 7.6 | 8.3 / 0.414 | 4.0 / 0.326 | 4.9 / 0.213 | 1.1 / 0.028 | 0 / 0.000 | 51 / 0.836 | | 0.0 / 0.000 | | | 0.05 | | | | 22 | 37 | 0 | 80 | | USGS |
| Feb 15 1100 | 8,220 | 54 | 11.3 | 104 | 106 | 7.3 | 10 / 0.499 | 3.9 / 0.321 | 6.0 / 0.261 | 1.4 / 0.036 | 0 / 0.000 | 56 / 0.918 | | 0.0 / 0.000 | | | 0.00 | | | | 23 | 41 | 0 | 35 | | USGS |
| Mar 12 1600 | 7,480 | 41 | 11.1 | 87 | 106 | 7.2 | 10 / 0.499 | 4.6 / 0.381 | 4.7 / 0.204 | 1.1 / 0.028 | 0 / 0.000 | 54 / 0.885 | | 1.8 / 0.051 | | | 0.06 | | | | 18 | 44 | 0 | 40 | | USGS |
| Apr 9 1800 | 4,130 | 48 | 10.7 | 92 | 106 | 7.4 | 10 / 0.499 | 3.8 / 0.311 | 6.0 / 0.261 | 1.2 / 0.031 | 0 / 0.000 | 59 / 0.967 | | 1.8 / 0.051 | | | 0.09 | | | | 24 | 40 | 0 | 30 | | USGS |
| May 14 1400 | 12,200 | 50 | 12.7 | 112 | 95.4 | 7.4 | 9.6 / 0.479 | 3.9 / 0.321 | 4.8 / 0.209 | 1.5 / 0.038 | 0 / 0.000 | 55 / 0.901 | 4.0 / 0.083 | 2.0 / 0.056 | 0.3 / 0.005 | 0.0 / 0.000 | 0.05 | 15 | Fe 0.07; Al 0.09; Cu 0.01; Zn 0.02; $PO_4$ 0.05; (a) | 68[b] | 20 | 40 | 0 | 30 | | USGS |
| June 12 1500 | 7,160 | 49 | 10.6 | 92 | 101 | 7.3 | 9.8 / 0.489 | 3.6 / 0.299 | 5.2 / 0.226 | 1.1 / 0.028 | 0 / 0.000 | 55 / 0.901 | | 1.4 / 0.039 | | | 0.00 | | | | 22 | 39 | 0 | 15 | | USGS |
| July 10 1400 | 8,350 | 50 | 9.5 | 84 | 97.7 | 7.3 | 10 / 0.499 | 3.5 / 0.285 | 5.5 / 0.239 | 1.4 / 0.036 | 0 / 0.000 | 56 / 0.918 | | 1.5 / 0.042 | | | 0.02 | | | | 23 | 39 | 0 | 15 | | USGS |
| Aug 15 0815 | 8,770 | 50 | 9.4 | 83 | 97.3 | 7.3 | 8.8 / 0.439 | 4.9 / 0.401 | 5.0 / 0.218 | 0.8 / 0.020 | 0 / 0.000 | 59 / 0.967 | | 1.0 / 0.028 | | | 0.06 | | | | 20 | 42 | 0 | 3 | | USGS |
| Sept 19 0910 | 8,110 | 52 | 9.0 | 81 | 95.9 | 7.3 | 10 / 0.499 | 3.4 / 0.277 | 4.6 / 0.200 | 0.8 / 0.020 | 0 / 0.000 | 57 / 0.934 | 2.9 / 0.060 | 0.5 / 0.014 | 0.5 / 0.008 | 0.3 / 0.016 | 0.00 | 22 | Fe 0.07; Al 0.13; Cu 0.01; Zn 0.02; (a) | 73[b] | 20 | 39 | 0 | 8 | | USGS |
| Oct 15 1450 | 7,220 | 53 | 8.8 | 81 | 99.9 | 6.9 | 9.6 / 0.479 | 3.9 / 0.321 | 5.0 / 0.218 | 1.0 / 0.026 | 0 / 0.000 | 59 / 0.967 | | 1.5 / 0.042 | | | 0.05 | | | | 21 | 40 | 0 | 3 | | USGS |
| Nov 9 1500 | 7,180 | 52 | 8.8 | 80 | 104 | 7.1 | 9.6 / 0.479 | 3.8 / 0.309 | 5.2 / 0.226 | 1.2 / 0.031 | 0 / 0.000 | 60 / 0.983 | | 1.2 / 0.034 | | | 0.00 | | | | 22 | 39 | 0 | 2 | | USGS |
| Dec 10 1345 | 6,200 | 52 | 9.7 | 88 | 125 | 7.3 | 11 / 0.55 | 6.0 / 0.49 | 7.1 / 0.31 | 1.6 / 0.04 | 0 / 0.00 | 74 / 1.21 | | 1.9 / 0.05 | | | 0.06 | | | | 22 | 52 | 0 | 2 | median .62 minimum .045 – maximum 9.5 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River at Knights Landing | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1030 | 12,600 | 43 | 12.0 | 97 | 261 | 7.4 | 17 / 0.848 | 8.9 / 0.732 | 23 / 1.000 | 1.2 / 0.031 | 0 / 0.000 | 92 / 1.508 | | 18 / 0.508 | | | 0.01 | | | | 38 | 79 | 4 | 30 | | USGS |
| Feb 9 1038 | 8,670 | 44 | 10.6 | 86 | 314 | 8.0 | 20 / 0.998 | 13 / 1.042 | 27 / 1.174 | 1.4 / 0.036 | 0 / 0.000 | 112 / 1.836 | | 20 / 0.564 | | | 0.07 | | | | 36 | 102 | 10 | 8 | | USGS |
| Mar 8 1500 | 6,720 | 51 | 10.5 | 94 | 293 | 7.8 | 20 / 0.998 | 11 / 0.902 | 24 / 1.044 | 1.6 / 0.041 | 0 / 0.000 | 113 / 1.852 | | 18 / 0.508 | | | 0.00 | | | | 35 | 95[c] | 2 | 9 | | USGS |
| Apr 5 1415 | 5,610 | 56 | 10.1 | 96 | 267 | 8.2 | 12 / 0.599 | 15 / 1.201 | 23 / 1.000 | 1.8 / 0.046 | 0 / 0.000 | 114 / 1.868 | | 15 / 0.423 | | | 0.13 | | | | 35 | 90 | 0 | 20 | | USGS |
| May 16 0930 | 7,420 | 64 | 9.3 | 87 | 401 | 7.8 | 21 / 1.048 | 14 / 1.192 | 45 / 1.957 | 2.7 / 0.069 | 0 / 0.000 | 155 / 2.540 | 49 / 1.020 | 22 / 0.620 | 0.9 / 0.015 | 0.3 / 0.016 | 0.19 | 19 | Al 0.04; (a) $PO_4$ 0.25 | 250[b] | 46 | 112 | 0 | 120 | | USGS |
| Jun 20 1010 | 6,050 | 73 | 7.6 | 87 | 520 | 7.8 | 26 / 1.30 | 16 / 1.34 | 63 / 2.74 | 1.7 / 0.04 | 0 / 0.00 | 188 / 3.08 | | 36 / 1.02 | | | 0.40 | | | | 51 | 132 | 0 | 37 | | USGS |
| Jul 18 0910 | 7,120 | 71 | 8.8 | 99 | 330 | 7.2 | 18 / 0.898 | 12 / 1.022 | 34 / 1.478 | 1.6 / 0.041 | 0 / 0.000 | 144 / 2.360 | | 18 / 0.508 | | | 0.21 | | | | 43 | 96 | 0 | 45 | | USGS |
| Aug 22 0930 | 6,610 | 73 | 7.7 | 88 | 460 | 7.6 | 23 / 1.148 | 19 / 1.532 | 50 / 2.174 | 1.7 / 0.043 | 0 / 0.000 | 203 / 3.327 | | 26 / 0.733 | | | 0.26 | | | | 44 | 134 | 0 | 170 | | USGS |
| Sep 19 0910 | 7,960 | 65 | | | 512 | 7.4 | 36 / 1.80 | 13 / 1.08 | 51 / 2.22 | 2.6 / 0.07 | 0 / 0.00 | 201 / 3.29 | 52 / 1.08 | 32 / 0.90 | 1.2 / 0.02 | 0.5 / 0.03 | 0.25 | 21 | Fe 0.09; Cu 0.02 (a) | 309[b] | 43 | 144 | 0 | 70 | | USGS |
| Oct 17 1000 | 5,750 | 65 | 8.7 | 92 | 354 | 7.3 | 21 / 1.048 | 12 / 1.020 | 33 / 1.436 | 1.9 / 0.049 | 0 / 0.000 | 140 / 2.295 | | 19 / 0.535 | | | 0.16 | | | | 40 | 103 | 0 | 35 | | USGS |
| Nov 24 1130 | 11,400 | 58 | 9.9 | 85 | 314 | 7.0 | 16 / 0.798 | 11 / 0.832 | 34 / 1.479 | 2.3 / 0.059 | 0 / 0.000 | 98 / 1.606 | | 21 / 0.592 | | | 0.24 | | | | 46 | 84 | 4 | 140 | | USGS |
| Dec 12 1050 | 12,900 | 48 | 11.9 | 102 | 317 | 6.8 | 17 / 0.848 | 11 / 0.872 | 33 / 1.436 | 1.8 / 0.046 | 0 / 0.000 | 92 / 1.508 | | 22 / 0.620 | | | 0.17 | | | | 45 | 86 | 11 | 50 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 minimum .046 maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River at Knights Landing | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1430 | 25,500 | 50 | 10.8 | 95 | 106 | 7.2 | 9.3 / 0.464 | 4.9 / 0.400 | 4.9 / 0.213 | 1.4 / 0.036 | 0 / 0.000 | 48 / 0.787 | | 2.2 / 0.062 | | | 0.05 | | | | 19 | 43 | 4 | 360 | | USGS |
| Feb 8 1320 | 20,800 MD | 49 | 11.2 | 97 | 176 | 6.8 | 15 / 0.748 | 7.6 / 0.624 | 9.3 / 0.405 | 1.2 / 0.031 | 0 / 0.000 | 84 / 1.377 | | 4.8 / 0.135 | | | 0.04 | | | | 22 | 69 | 0 | 70 | | USGS |
| Mar 15 1415 | 17,900 MD | 51 | 11.3 | 101 | 197 | 7.3 | 17 / 0.848 | 7.8 / 0.640 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 90 / 1.475 | | 7.3 / 0.206 | | | 0.05 | | | | 24 | 74 | 0 | 50 | | USGS |
| Apr 12 1450 | 9,810 MD | 56 | 9.8 | 93 | 158 | 7.0 | 16 / 0.798 | 5.6 / 0.462 | 7.9 / 0.344 | 1.2 / 0.031 | 0 / 0.000 | 88 / 1.442 | | 3.3 / 0.093 | | | 0.01 | | | | 21 | 63 | 0 | 25 | | USGS |
| May 14 0850 | 18,700 MD | 56 | 10.2 | 91 | 127 | 7.2 | 11 / 0.549 | 5.0 / 0.415 | 7.6 / 0.331 | 1.1 / 0.028 | 0 / 0.000 | 64 / 1.049 | 6.4 / 0.133 | 3.8 / 0.107 | 0.4 / 0.006 | 0.1 / 0.005 | 0.08 | 23 | Fe 0.15; Al 0.03; Cu 0.01; $PO_4$ 0.17; (a) | 91[b] | 25 | 48 | 0 | 50 | | USGS |
| June 18 0900 | 6,950 MD | 70 | 8.4 | 93 | 311 | 7.4 | 19 / 0.948 | 11 / 0.932 | 30 / 1.305 | 1.4 / 0.036 | 0 / 0.000 | 127 / 2.082 | | 17 / 0.479 | | | 0.27 | | | | 41 | 94 | 0 | 50 | | USGS |
| July 23 0930 | 7,260 MD | 76 | 8.2 | 97 | 225 | 7.5 | 15 / 0.748 | 9.4 / 0.772 | 19 / 0.826 | 1.4 / 0.036 | 0 / 0.000 | 110 / 1.803 | | 9.0 / 0.254 | | | 0.13 | | | | 35 | 76 | 0 | 25 | | USGS |
| Aug 20 0930 | 6,700 MD | 68 | 8.9 | 97 | 172 | 6.8 | 12 / 0.599 | 8.3 / 0.681 | 12 / 0.522 | 1.2 / 0.031 | 0 / 0.000 | 86 / 1.410 | | 7.0 / 0.197 | | | 0.02 | | | | 28 | 64 | 0 | 20 | | USGS |
| Sept 11 1000 | 8,680 MD | 67 | 9.0 | 97 | 187 | 7.5 | 14 / 0.699 | 7.6 / 0.625 | 14 / 0.609 | 1.2 / 0.031 | 0 / 0.000 | 95 / 1.557 | 12 / 0.250 | 6.2 / 0.175 | 0.1 / 0.002 | 0.3 / 0.016 | 0.03 | 23 | Fe 0.04; Al 0.04; Cu 0.01; Zn 0.01; (a) | 125[b] | 31 | 66 | 0 | 45 | | USGS |
| Oct 25 1020 | 7,940 MD | 54 | 10.1 | 94 | 133 | 7.5 | 12 / 0.599 | 5.5 / 0.449 | 7.6 / 0.331 | 1.2 / 0.031 | 0 / 0.000 | 74 / 1.213 | | 3.8 / 0.107 | | | 0.02 | | | | 23 | 52 | 0 | 7 | | USGS |
| Nov 13 1050 | 8,840 MD | 56 | 10.3 | 98 | 215 | 6.8 | 14 / 0.699 | 8.1 / 0.669 | 17 / 0.740 | 1.8 / 0.046 | 0 / 0.000 | 94 / 1.541 | | 9.5 / 0.268 | | | 0.12 | | | | 34 | 68 | 0 | 20 | | USGS |
| Dec 12 0945 | 7,880 MD | 44 | 11.9 | 97 | 162 | 7.6 | 8.8 / 0.44 | 9.2 / 0.76 | 11 / 0.48 | 1.6 / 0.04 | 0 / 0.00 | 90 / 1.48 | | 5.5 / 0.16 | | | 0.09 | | | | 28 | 60 | 0 | 5 | median 23 minimum 6.2 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River near Redding | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1100 | 7,400 | 46 | 10.16 | 85 | 112 | 7.2 | 11 / 0.549 | 4.0 / 0.331 | 6.8 / 0.296 | 1.4 / 0.036 | 0 / 0.000 | 64 / 1.049 | | 3.0 / 0.085 | | | 0.00 | | | | 24 | 44 | 0 | 7 | | USGS |
| Feb 9 1400 | 4,360 | 50 | 12.2 | 108 | 123 | 7.4 | 11 / 0.549 | 5.3 / 0.435 | 8.2 / 0.357 | 1.6 / 0.041 | 0 | 72 / 1.180 | | 3.2 / 0.090 | | | 0.00 | | | | 26 | 49 | 0 | 2 | | USGS |
| Mar 8 1400 | 3,010 | 51 | 12.6 | 112 | 120 | 7.9 | 8.1 / 0.404 | 6.3 / 0.516 | 7.4 / 0.322 | 1.6 / 0.041 | 0 | 66 / 1.082 | | 2.8 / 0.079 | | | 0.00 | | | | 25 | 46 | 0 | 4 | | USGS |
| Apr 13 1430 | 6,050 | 50 | 11.6 | 101 | 128 | 7.7 | 11 / 0.549 | 4.8 / 0.391 | 7.1 / 0.309 | 1.4 / 0.036 | 0 / 0.000 | 71 / 1.164 | | 3.2 / 0.090 | | | 0.06 | | | | 24 | 47 | 0 | 2 | | USGS |
| May 11 1600 | 5,510 | 54 | 12.2 | 113 | 135 | 7.6 | 11 / 0.549 | 4.8 / 0.391 | 7.4 / 0.322 | 1.4 / 0.036 | 0 / 0.000 | 66 / 1.082 | 8.5 / 0.177 | 3.2 / 0.090 | 0.2 / 0.003 | 0.1 / 0.005 | 0.06 | 25 | Fe 0.06; Al 0.02; Zn 0.005; (a) $PO_4$ 0.05 | 95[b] | 25 | 47 | 0 | 1 | | USGS |
| Jun 20 1000 | 8,920 | 52 | 12.4 | 112 | 125 | 7.6 | 10 / 0.499 | 5.1 / 0.421 | 7.1 / 0.309 | 1.3 / 0.033 | 0 / 0.000 | 69 / 1.131 | | 2.8 / 0.079 | | | 0.02 | | | | 24 | 46 | 0 | 2 | | USGS |
| Jul 14 2000 | 11,200 | 52 | 10.1 | 91 | 121 | 7.4 | 10 / 0.499 | 5.1 / 0.421 | 7.1 / 0.309 | 1.4 / 0.036 | 0 / 0.000 | 70 / 1.147 | | 2.8 / 0.079 | | | 0.05 | | | | 24 | 46 | 0 | 1 | | USGS |
| Aug | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 12 1130 | 7,230 | 52 | 10.9 | 98 | 117 | 7.4 | 13 / 0.649 | 3.0 / 0.245 | 6.0 / 0.261 | 1.3 / 0.033 | 0 / 0.000 | 66 / 1.082 | 3.0 / 0.062 | 2.0 / 0.056 | 0.4 / 0.006 | 0.1 / 0.005 | 0.05 | 23 | Fe 0.03; Cu 0.02; Zn 0.03 (a) | 85[b] | 20 | 45 | 0 | 6 | | USGS |
| Oct 10 1400 | 6,080 | 54 | 10.2 | 95 | 120 | 7.3 | 11 / 0.549 | 5.7 / 0.471 | 6.3 / 0.274 | 1.2 / 0.031 | 0 / 0.000 | 67 / 1.098 | | 1.1 / 0.031 | | | 0.08 | | | | 21 | 51 | 0 | 3 | | USGS |
| Nov 16 1300 | 4,690 | 56 | 10.2 | 97 | 131 | 7.4 | 12 / 0.599 | 4.9 / 0.401 | 7.6 / 0.331 | 1.7 / 0.043 | 0 / 0.000 | 72 / 1.180 | | 3.8 / 0.107 | | | 0.09 | | | | 24 | 50 | 0 | 25 | | USGS |
| Dec 12 1100 | 3,340 | 54 | 10.0 | 93 | 132 | 7.2 | 11 / 0.549 | 5.2 / 0.431 | 7.9 / 0.344 | 1.6 / 0.041 | 0 / 0.000 | 69 / 1.131 | | 3.5 / 0.099 | | | 0.08 | | | | 25 | 49 | 0 | 7 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 180 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Sacramento River near Redding** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1115 | 39,200 | 42 | 12.3 | 97 | 98.1 | 7.5 | 8.5 / 0.424 | 3.9 / 0.320 | 5.0 / 0.218 | 1.2 / 0.031 | 0 / 0.000 | 51 / 0.836 | | 0.0 / 0.000 | | | 0.02 | | | | 22 | 37 | 0 | 95 | | USGS |
| Feb 14 1500 | 7,230 | 56 | 11.0 | 117 | 111 | 7.2 | 11 / 0.549 | 3.8 / 0.315 | 6.0 / 0.261 | 1.3 / 0.033 | 0 / 0.000 | 56 / 0.918 | | 0.0 / 0.000 | | | 0.01 | | | | 23 | 43 | 0 | 65 | | USGS |
| Mar 12 1130 | 8,180 | 42 | 11.5 | 91 | 109 | 7.3 | 11 / 0.549 | 3.3 / 0.271 | 6.1 / 0.265 | 1.1 / 0.028 | 0 / 0.000 | 62 / 1.016 | | 0.0 / 0.000 | | | 0.03 | | | | 24 | 41 | 0 | 15 | | USGS |
| Apr 9 1300 | 3,980 | 52 | 11.4 | 103 | 107 | 7.4 | 11 / 0.549 | 3.4 / 0.281 | 5.8 / 0.252 | 1.2 / 0.031 | 0 / 0.000 | 58 / 0.951 | | 1.6 / 0.045 | | | 0.07 | | | | 23 | 42 | 0 | 35 | | USGS |
| May 11 1430 | 14,200 | 52 | 11.8 | 106 | 98.9 | 7.4 | 9.2 / 0.459 | 4.6 / 0.381 | 5.2 / 0.226 | 1.2 / 0.031 | 0 / 0.000 | 57 / 0.934 | 3.0 / 0.062 | 2.0 / 0.056 | 0.3 / 0.005 | 0.0 / 0.000 | 0.10 | 17 | Fe 0.09; Al 0.17; Cu 0.01; Zn 0.02; $PO_4$ 0.10; (a) | 71[b] | 21 | 42 | 0 | 25 | | USGS |
| June 12 0900 | 6,830 | 50 | 11.7 | 104 | 99.4 | 7.3 | 10 / 0.499 | 3.3 / 0.273 | 5.3 / 0.231 | 1.3 / 0.033 | 0 / 0.000 | 55 / 0.901 | | 1.4 / 0.039 | | | 0.01 | | | | 22 | 39 | 0 | 20 | | USGS |
| July 9 1400 | 8,240 | 53 | 11.1 | 101 | 99.1 | 7.4 | 9.9 / 0.494 | 3.2 / 0.262 | 5.1 / 0.222 | 1.3 / 0.033 | 0 / 0.000 | 56 / 0.918 | | 1.2 / 0.034 | | | 0.00 | | | | 22 | 38 | 0 | 15 | | USGS |
| Aug 15 0900 | 8,570 | 51 | 10.2 | 91 | 96.5 | 7.3 | 9.6 / 0.479 | 5.1 / 0.421 | 4.8 / 0.209 | 1.0 / 0.026 | 0 / 0.000 | 58 / 0.951 | | 1.5 / 0.042 | | | 0.00 | | | | 18 | 45 | 0 | 3 | | USGS |
| Sept 19 0845 | 8,060 | 54 | 9.4 | 87 | 97.2 | 7.3 | 10 / 0.499 | 3.4 / 0.281 | 4.8 / 0.209 | 1.0 / 0.026 | 0 / 0.000 | 56 / 0.918 | 3.5 / 0.073 | 0.5 / 0.014 | 0.3 / 0.005 | 0.3 / 0.016 | 0.01 | 20 | Fe 0.06; Al 0.16; Cu 0.02; Zn 0.03; (a) | 72[b] | 21 | 39 | 0 | 5 | | USGS |
| Oct 15 1345 | 7,050 | 55 | 9.9 | 93 | 99.4 | 7.5 | 9.5 / 0.474 | 4.5 / 0.366 | 4.9 / 0.213 | 0.9 / 0.023 | 0 / 0.000 | 59 / 0.967 | | 1.3 / 0.037 | | | 0.01 | | | | 20 | 42 | 0 | 3 | | USGS |
| Nov 9 1400 | 6,910 | 53 | 9.8 | 90 | 106 | 7.3 | 9.6 / 0.479 | 3.7 / 0.305 | 5.4 / 0.235 | 1.1 / 0.028 | 0 / 0.000 | 60 / 0.983 | | 1.2 / 0.034 | | | 0.03 | | | | 22 | 39 | 0 | 3 | | USGS |
| Dec 10 1545 | 5,770 | 52 | 11.2 | 101 | 126 | 7.5 | 11 / 0.55 | 5.5 / 0.45 | 7.4 / 0.32 | 1.5 / 0.04 | 0 / 0.00 | 75 / 1.23 | | 2.4 / 0.07 | | | 0.07 | | | | 24 | 50 | 0 | 2 | median 365 minimum 23 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River at Rio Vista | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 21 1200 | Tidal Area | 44 | 10.2 | 83 | 164 | 7.2 | 12 / 0.599 | 7.1 / 0.581 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 71 / 1.164 | | 9.5 / 0.268 | | | 0.19 | | | | 26 | 59 | 1 | 60 | | USGS |
| Feb 14 1130 | | 50 | 10.0 | 88 | 256 | 7.4 | 18 / 0.898 | 12 / 0.982 | 18 / 0.783 | 1.2 / 0.031 | 0 / 0.000 | 104 / 1.704 | | 16 / 0.451 | | | 0.11 | | | | 29 | 94 | 9 | 10 | | USGS |
| Mar 14 1300 | | 57 | 9.6 | 92 | 222 | 7.4 | 17 / 0.848 | 9.1 / 0.752 | 14 / 0.609 | 1.1 / 0.028 | 0 / 0.000 | 91 / 1.491 | | 13 / 0.367 | | | 0.16 | | | | 27 | 80 | 5 | 15 | | USGS |
| Apr 18 1120 | | 58 | 9.3 | 90 | 179 | 7.5 | 12 / 0.599 | 8.3 / 0.681 | 11 / 0.478 | 1.2 / 0.031 | 0 / 0.000 | 81 / 1.327 | | 9.2 / 0.259 | | | 0.04 | | | | 27 | 64 | 0 | 12 | | USGS |
| May 16 1440 | | 62 | 8.8 | 90 | 149 | 7.4 | 11 / 0.549 | 6.0 / 0.491 | 9.6 / 0.417 | 0.9 / 0.023 | 0 / 0.000 | 66 / 1.082 | 3.1 / 0.065 | 11 / 0.310 | 0.6 / 0.010 | 0.1 / 0.005 | 0.09 | 19 | Fe 0.02; Al 0.07; Zn 0.01 (a) $PO_4$ 0.10 | 94[b] | 28 | 52 | 0 | 10 | | USGS |
| Jun 20 1400 | | 67 | 8.9 | 96 | 161 | 7.7 | 10 / 0.499 | 7.1 / 0.581 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 70 / 1.147 | | 10 / 0.282 | | | 0.08 | | | | 30 | 54 | 0 | 25 | | USGS |
| Jul 20 1100 | | 70 | 8.0 | 89 | 229 | 6.8 | 13 / 0.649 | 9.6 / 0.791 | 18 / 0.783 | 1.9 / 0.049 | 0 / 0.000 | 76 / 1.246 | | 14 / 0.395 | | | 0.21 | | | | 34 | 72 | 10 | 40 | | USGS |
| Aug 25 1410 | | 72 | 8.3 | 95 | 222 | 7.5 | 12 / 0.599 | 10 / 0.841 | 18 / 0.783 | 1.5 / 0.038 | 0 / 0.000 | 100 / 1.639 | | 13 / 0.367 | | | 0.11 | | | | 35 | 72 | 0 | 15 | | USGS |
| Sep 23 1300 | | 63 | 7.2 | 74 | 279 | 7.5 | 19 / 0.948 | 11 / 0.912 | 23 / 1.000 | 2.0 / 0.051 | 0 / 0.000 | 126 / 2.065 | 17 / 0.354 | 16 / 0.451 | 0.5 / 0.008 | 0.3 / 0.016 | 0.01 | 24 | Fe 0.05; Al 0.05; (a) | 175[b] | 34 | 93 | 0 | 20 | | USGS |
| Oct 20 1110 | | 62 | 7.6 | 77 | 207 | 7.5 | 14 / 0.699 | 8.7 / 0.713 | 14 / 0.609 | 1.5 / 0.038 | 0 / 0.000 | 95 / 1.557 | | 9.9 / 0.279 | | | 0.09 | | | | 30 | 71 | 0 | 4 | | USGS |
| Nov 25 1130 | | 56 | 9.1 | 80 | 190 | 7.3 | 15 / 0.748 | 7.0 / 0.572 | 13 / 0.566 | 1.7 / 0.043 | 0 / 0.000 | 90 / 1.475 | | 10 / 0.282 | | | 0.03 | | | | 29 | 66 | 0 | 95 | | USGS |
| Dec 22 0900 | | 52 | 9.1 | 82 | 109 | 7.1 | 8.8 / 0.439 | 4.5 / 0.369 | 6.1 / 0.265 | 2.3 / 0.059 | 0 / 0.000 | 43 / 0.705 | | 4.5 / 0.127 | | | 0.12 | | | | 23 | 40 | 5 | 600 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River at Rio Vista | | | | | | | | | | | | | | | | | | | |
| 1956 | Tidal Area | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 0850 | | 48 | 9.8 | 84 | 118 | 7.3 | 10 / 0.499 | 5.4 / 0.441 | 5.4 / 0.235 | 1.3 / 0.033 | 0 / 0.000 | 57 / 0.934 | | 3.1 / 0.087 | | | 0.12 | | | | 19 | 47 | 0 | 290 | | USGS |
| Feb 17 0855 | | 43 | 11.0 | 88 | 221 | 7.3 | 17 / 0.848 | 10 / 0.832 | 13 / 0.566 | 1.4 / 0.036 | 0 / 0.000 | 100 / 1.639 | | 10 / 0.282 | | | 0.21 | | | | 25 | 84 | 2 | 75 | | USGS |
| Mar 22 0945 | | 53 | 10.4 | 95 | 216 | 7.3 | 16 / 0.798 | 11 / 0.882 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 101 / 1.655 | | 10 / 0.282 | | | 0.39 | | | | 23 | 84 | 1 | 55 | | USGS |
| Apr 18 1230 | | 53 | 10.4 | 95 | 152 | 7.3 | 12 / 0.599 | 7.1 / 0.581 | 8.6 / 0.374 | 1.0 / 0.026 | 0 / 0.000 | 73 / 1.196 | | 7.1 / 0.200 | | | 0.08 | | | | 24 | 59 | 0 | 25 | | USGS |
| May 16 1130 | | 59 | 9.8 | 97 | 119 | 7.5 | 12 / 0.599 | 4.5 / 0.367 | 7.9 / 0.344 | 1.0 / 0.026 | 0 / 0.000 | 62 / 1.016 | 9.0 / 0.187 | 4.5 / 0.127 | 0.4 / 0.006 | 0.4 / 0.021 | 0.05 | 18 | Fe 0.13; $Cr^{+6}$ 0.01; Al 0.06; Zn 0.05; Cu 0.01; $FO_4$ 0.00; (a) | 89[b] | 26 | 48 | 0 | 30 | | USGS |
| June 21 0900 | | 69 | 8.0 | 88 | 124 | 7.3 | 9.8 / 0.489 | 5.0 / 0.411 | 8.4 / 0.365 | 1.1 / 0.028 | 0 / 0.000 | 60 / 0.983 | | 5.5 / 0.155 | | | 0.00 | | | | 28 | 45 | 0 | 25 | | USGS |
| July 23 1145 | | 75 | 8.6 | 101 | 163 | 7.0 | 12 / 0.599 | 6.8 / 0.561 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 78 / 1.278 | | 9.0 / 0.254 | | | 0.06 | | | | 30 | 58 | 0 | 20 | | USGS |
| Aug 27 1150 | | 70 | 8.3 | 93 | 177 | 7.5 | 13 / 0.649 | 6.7 / 0.551 | 14 / 0.609 | 1.2 / 0.031 | 0 / 0.000 | 84 / 1.377 | | 9.7 / 0.274 | | | 0.00 | | | | 33 | 60 | 0 | 15 | | USGS |
| Sept 12 1040 | | 69 | 8.9 | 98 | 205 | 7.0 | 15 / 0.748 | 8.4 / 0.692 | 15 / 0.652 | 1.1 / 0.028 | 0 / 0.000 | 98 / 1.606 | 13 / 0.271 | 8.5 / 0.240 | 0.7 / 0.011 | 0.3 / 0.016 | 0.02 | 19 | Fe 0.03; Zn 0.01; Cu 0.01; (a) | 129[b] | 31 | 72 | 0 | 25 | | USGS |
| Oct 15 1240 | | 65 | 8.6 | 91 | 153 | 6.9 | 12 / 0.599 | 6.1 / 0.505 | 9.9 / 0.431 | 1.4 / 0.036 | 0 / 0.000 | 78 / 1.278 | | 6.3 / 0.178 | | | 0.00 | | | | 27 | 55 | 0 | 10 | | USGS |
| Nov 21 1030 | | 48 | 10.0 | 86 | 149 | 7.5 | 13 / 0.649 | 6.3 / 0.519 | 9.4 / 0.409 | 1.8 / 0.046 | 0 / 0.000 | 77 / 1.262 | | 5.0 / 0.141 | | | 0.10 | | | | 25 | 58 | 0 | 110 | | USGS |
| Dec 19 1130 | | 47 | 10.8 | 92 | 155 | 7.3 | 13 / 0.65 | 6.4 / 0.53 | 10 / 0.44 | 1.4 / 0.04 | 0 / 0.00 | 81 / 1.33 | | 6.0 / 0.17 | | | 0.11 | | | | 27 | 59 | 0 | 20 | median 42.5 minimum 1.3 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River at Sacramento | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1440 | 23,800 | 44 | 10.9 | 89 | 195 | 7.3 | 15 / 0.749 | 7.2 / 0.591 | 15 / 0.652 | 1.1 / 0.028 | 0 / 0.000 | 80 / 1.311 | | 12 / 0.338 | | | 0.00 | | | | 32 | 67 | 1 | 70 | | [illegible] |
| Feb 15 0900 | 12,800 | 49 | 10.6 | 92 | 217 | 7.4 | 17 / 0.848 | 8.7 / 0.712 | 14 / 0.609 | 1.2 / 0.031 | 0 / 0.000 | 97 / 1.590 | | 9.5 / 0.268 | | | 0.07 | | | | 28 | 78 | 0 | 5 | | [illegible] |
| Mar 18 1330 | 14,300 | 55 | 10.4 | 99 | 176 | 7.5 | 14 / 0.699 | 7.1 / 0.581 | 9.9 / 0.430 | 2.3 / 0.059 | 0 / 0.000 | 83 / 1.360 | | 8.0 / 0.226 | | | 0.18 | | | | 24 | 64 | 0 | 9 | | [illegible] |
| Apr 19 0830 | 9,070 | 54 | 9.7 | 90 | 131 | 7.4 | 7.7 / 0.384 | 8.2 / 0.676 | 7.0 / 0.304 | 1.2 / 0.031 | 0 / 0.000 | 72 / 1.180 | | 3.8 / 0.107 | | | 0.03 | | | | 22 | 53 | 0 | 7 | | [illegible] |
| May 16 0730 | 21,700 | 60 | 9.2 | 92 | 167 | 7.6 | 13 / 0.649 | 6.0 / 0.494 | 12 / 0.522 | 1.0 / 0.026 | 0 / 0.000 | 73 / 1.196 | 13 / 0.271 | 9.2 / 0.259 | 0.5 / 0.008 | 0.2 / 0.011 | 0.06 | 19 | Al 0.07; (a) $PO_4$ 0.15 | 110[b] | 31 | 57 | 0 | 15 | | [illegible] |
| Jun 20 0800 | 9,400 | 69 | 8.8 | 97 | 212 | 7.6 | 14 / 0.699 | 8.0 / 0.661 | 16 / 0.696 | 1.2 / 0.031 | 0 / 0.000 | 93 / 1.524 | — | 13 / 0.367 | | | 0.08 | | | | 33 | 68 | 0 | 10 | | [illegible] |
| Jul 15 1300 | 9,200 | 72 | 8.4 | 96 | 221 | 7.3 | 14 / 0.699 | 8.0 / 0.661 | 18 / 0.783 | 1.8 / 0.046 | 0 / 0.000 | 92 / 1.508 | | 12 / 0.338 | | | 0.29 | | | | 36 | 68 | 0 | 15 | | [illegible] |
| Aug 22 0750 | 8,780 | 70 | 8.5 | 95 | 267 | 7.5 | 17 / 0.848 | 11 / 0.912 | 22 / 0.957 | 1.4 / 0.036 | 0 / 0.000 | 121 / 1.983 | | 16 / 0.451 | | | 0.00 | | | | 35 | 88 | 0 | 15 | | [illegible] |
| Sep 19 1015 | 11,200 | 64 | 7.6 | 79 | 169 | 7.5 | 18 / 0.898 | 12 / 0.978 | 21 / 0.913 | 1.8 / 0.046 | 0 / 0.000 | 126 / 2.065 | 17 / 0.354 | 16 / 0.451 | 0.3 / 0.005 | 0.2 / 0.011 | 0.19 | 25 | Fe 0.09; Al 0.02; Cu 0.01; Zn 0.02; (a) | 174[b] | 32 | 94 | 0 | 40 | | [illegible] |
| Oct 14 1230 | 8,690 | 62 | 8.2 | 83 | 169 | 7.3 | 13 / 0.649 | 7.3 / 0.599 | 10 / 0.435 | 1.5 / 0.038 | 0 / 0.000 | 88 / 1.442 | | 5.1 / [illegible] | | | 0.11 | | | | 25 | 62 | 0 | 20 | | [illegible] |
| Nov 18 1225 | 9,960 | 57 | 10.0 | 85 | 172 | 7.3 | 13 / 0.649 | 7.5 / 0.619 | 12 / 0.522 | 1.7 / 0.043 | 0 / 0.000 | 88 / 1.442 | | 7.5 / 0.212 | | | 0.05 | | | | 28 | 63 | 0 | 70 | | [illegible] |
| Dec 22 1400 | 73,100 | 50 | 10.0 | 88 | 63.4 | 7.1 | 6.0 / 0.299 | 2.4 / 0.201 | 2.8 / 0.122 | 1.5 / 0.038 | 0 / 0.000 | 28 / 0.459 | | 1.7 / 0.048 | | | 0.14 | | | | 18 | 25 | 2 | 170 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance micromhos at 25° | | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Sacramento River at Sacramento** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1330 | 64,500 MD | 47 | 10.5 | 89 | 103 | 7.1 | 9.1 / 0.454 | 4.9 / 0.406 | 4.4 / 0.191 | 1.4 / 0.036 | 0 / 0.000 | 52 / 0.852 | | 2.4 / 0.068 | | | 0.08 | | | | 18 | 43 | 0 | 80 | | USGS |
| Feb 10 0945 | 52,700 | 45 | 11.2 | 93 | 148 | 7.3 | 12 / 0.599 | 6.4 / 0.529 | 7.8 / 0.339 | 1.1 / 0.028 | 0 / 0.000 | 71 / 1.164 | | 5.7 / 0.161 | | | 0.13 | | | | 23 | 56 | 0 | 60 | | USGS |
| Mar 16 1300 | 46,100 MD | 49 | 11.3 | 99 | 143 | 7.3 | 13 / 0.649 | 6.2 / 0.511 | 6.3 / 0.274 | 1.2 / 0.031 | 0 / 0.000 | 72 / 1.180 | | 5.8 / 0.164 | | | 0.01 | | | | 19 | 58 | 0 | 45 | | USGS |
| Apr 19 1000 | 27,700 MD | 54 | 10.3 | 96 | 125 | 7.3 | 11 / 0.549 | 5.4 / 0.443 | 8.6 / 0.374 | 1.1 / 0.028 | 0 / 0.000 | 66 / 1.082 | | 3.8 / 0.107 | | | 0.07 | | | | 27 | 50 | 0 | 30 | | USGS |
| May 11 1245 | 44,600 MD | 54 | 10.4 | 97 | 97.1 | 7.3 | 9.6 / 0.479 | 4.4 / 0.361 | 6.0 / 0.261 | 0.8 / 0.020 | 0 / 0.000 | 54 / 0.885 | 2.0 / 0.042 | 5.2 / 0.147 | 0.3 / 0.005 | 0.1 / 0.005 | 0.00 | 17 | Fe 0.09; Al 0.07; Cu 0.01; $PO_4$ 0.00; (a) | 72[b] | 23 | 42 | 0 | 30 | | USGS |
| June 21 0850 | 18,000 MD | 60 | 8.6 | 94 | 133 | 6.8 | 11 / 0.549 | 5.1 / 0.419 | 8.3 / 0.383 | 0.9 / 0.023 | 0 / 0.000 | 66 / 1.082 | | 5.8 / 0.164 | | | 0.11 | | | | 28 | 48 | 0 | 10 | | USGS |
| July 25 1430 | 11,300 MD | 74 | 9.0 | 104 | 165 | 7.1 | 12 / 0.599 | 7.3 / 0.601 | 13 / 0.566 | 1.2 / 0.031 | 0 / 0.000 | 83 / 1.360 | | 8.3 / 0.234 | | | 0.05 | | | | 31 | 60 | 0 | 20 | | USGS |
| Aug 23 0720 | 11,300 MD | 68 | 8.7 | 93 | 168 | 7.3 | 12 / 0.599 | 7.3 / 0.601 | 13 / 0.566 | 1.0 / 0.026 | 0 / 0.000 | 82 / 1.344 | | 9.0 / 0.254 | | | 0.02 | | | | 32 | 60 | 0 | 25 | | USGS |
| Sept 11 1730 | 13,300 MD | 68 | 9.6 | 105 | 127 | 6.8 | 9.6 / 0.479 | 4.9 / 0.401 | 8.9 / 0.387 | 0.8 / 0.020 | 0 / 0.000 | 62 / 1.016 | 6.1 / 0.127 | 5.0 / 0.141 | 0.6 / 0.010 | 0.3 / 0.016 | 0.00 | 15 | Fe 0.02; Cu 0.01; Zn 0.01; (a) | 82[b] | 30 | 44 | 0 | 10 | | USGS |
| Oct. 16 1700 | 12,500 MD | 61 | 10.0 | 101 | 169 | 7.0 | 14 / 0.699 | 8.9 / 0.729 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 86 / 1.410 | | 6.0 / 0.169 | | | 0.00 | | | | 26 | 71 | 0 | 10 | | USGS |
| Nov 21 1450 | 13,500 MD | 47 | 11.3 | 96 | 136 | 7.6 | 12 / 0.599 | 5.4 / 0.441 | 7.8 / 0.339 | 1.3 / 0.033 | 0 / 0.000 | 73 / 1.196 | | 4.0 / 0.113 | | | 0.04 | | | | 24 | 52 | 0 | 5 | | USGS |
| Dec 19 1445 | 12,200 MD | 47 | 11.7 | 99 | 148 | 7.3 | 13 / 0.65 | 6.4 / 0.53 | 9.4 / 0.41 | 1.6 / 0.04 | 0 / 0.00 | 79 / 1.29 | | 5.0 / 0.14 | | | 0.08 | | | | 25 | 59 | 0 | 10 | median 62; minimum .9; maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River at Snodgrass Slough | | | | | | | | | | | | | | | | | | | |
| 1955 | Tidal Area | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 21 1530 | | 45 | 10.3 | 85 | 157 | 7.2 | 11 / 0.549 | 6.2 / 0.511 | 10 / 0.435 | 1.1 / 0.028 | 0 / 0.000 | 63 / 1.032 | 9.1 / 0.189 | 11 / 0.310 | 1.2 / 0.019 | 0.5 / 0.026 | 0.00 | 22 | Fe 0.22 | 103[b] | 29 | 53 | 1 | 40 | | USGS |
| Feb 14 1600 | | 50 | 10.2 | 91 | 224 | 7.4 | 17 / 0.848 | 9.1 / 0.752 | 15 / 0.652 | 1.1 / 0.028 | 0 / 0.000 | 96 / 1.573 | 17 / 0.354 | 12 / 0.338 | 0.6 / 0.010 | 0.1 / 0.005 | 0.07 | 22 | Fe 0.02 | 141[b] | 29 | 80 | 1 | 8 | | USGS |
| Mar 14 1630 | | 55 | 10.0 | 94 | 162 | 7.4 | 13 / 0.649 | 6.5 / 0.531 | 9.8 / 0.426 | 1.1 / 0.028 | 0 / 0.000 | 75 / 1.229 | 10 / 0.208 | 7.0 / 0.197 | 0.5 / 0.008 | 0.1 / 0.005 | 0.10 | 20 | Fe 0.03 | 105[b] | 26 | 59 | 0 | 8 | | USGS |
| Apr 18 0945 | | 57 | 9.0 | 86 | 155 | 7.3 | 13 / 0.649 | 6.2 / 0.511 | 8.8 / 0.383 | 1.3 / 0.033 | 0 / 0.000 | 78 / 1.278 | 6.0 / 0.125 | 7.2 / 0.203 | 1.1 / 0.018 | 0.2 / 0.011 | 0.03 | 21 | Fe 0.05 | 102[b] | 24 | 58 | 0 | | | USGS |
| May 16 1130 | | 64 | 9.7 | 101 | 156 | 7.4 | 12 / 0.599 | 6.3 / 0.521 | 11 / 0.478 | 1.0 / 0.026 | 0 / 0.000 | 65 / 1.065 | 10 / 0.208 | 11 / 0.310 | 0.8 / 0.013 | 0.2 / 0.005 | 0.09 | 18 | Al 0.06; Zn 0.01; (a) $PO_4$ 0.15 | 102[b] | 29 | 56 | 3 | 20 | | USGS |
| Jun 20 1020 | | 70 | 8.4 | 93 | 206 | 7.4 | 14 / 0.699 | 6.1 / 0.501 | 15 / 0.652 | 1.0 / 0.026 | 0 / 0.000 | 80 / 1.311 | 12 / 0.250 | 11 / 0.310 | 0.8 / 0.013 | 0.0 / 0.000 | 0.08 | 19 | Fe 0.03 | 118[b] | 35 | 60 | 0 | 4 | | USGS |
| Jul 20 1430 | | 73 | 7.2 | 88 | 200 | 7.3 | 14 / 0.699 | 7.1 / 0.581 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 86 / 1.409 | 12 / 0.250 | 12 / 0.338 | 0.4 / 0.006 | 0.3 / 0.016 | 0.13 | 22 | Fe 0.05 | 127[b] | 33 | 64 | 0 | 20 | | USGS |
| Aug 26 1030 | | 71 | 7.2 | 81 | 227 | 7.3 | 15 / 0.749 | 7.0 / 0.551 | 17 / 0.739 | 1.3 / 0.033 | 0 / 0.000 | 98 / 1.606 | 12 / 0.250 | 12 / 0.338 | 0.6 / 0.010 | 0.1 / 0.005 | 0.11 | 22 | | 1[illegible][b] | 34 | 70 | 0 | 3 | | USGS |
| [illegible] 27 1[illegible] | | 65 | 8.9 | 92 | 245 | 7.4 | 17 / 0.848 | 11 / 0.902 | 15 / 0.652 | 1.2 / 0.031 | 0 / 0.000 | 114 / 1.868 | 14 / 0.291 | 12 / 0.338 | 1.0 / 0.016 | 0.1 / 0.005 | 0.01 | 26 | Fe 0.01; Al 0.12; Cu 0.01; $PO_4$ 0.[illegible]; (a) | 154[b] | 27 | 87 | 0 | 10 | | USGS |
| [illegible] 1845 | | [illegible] | 8.9 | 94 | 203 | 7.3 | 14 / 0.699 | 8.5 / 0.701 | 14 / 0.609 | 1.7 / 0.043 | 0 / 0.000 | 92 / 1.508 | 11 / 0.229 | 9.0 / 0.254 | 1.0 / 0.016 | 0.3 / 0.016 | 0.01 | 24 | Fe 0.01 | 129[b] | 30 | 70 | 0 | 9 | | USGS |
| Nov 25 14[illegible] | | 50 | 9.9 | 99 | 12[illegible] | 7.2 | [illegible] / 0.4[illegible] | 4.2 / 0.351 | 7.6 / 0.331 | 1.6 / 0.041 | 0 / 0.000 | 50 / 0.820 | 8.[illegible] / 0.1[illegible] | 9.0 / 0.226 | 1.1 / 0.018 | 0.5 / 0.026 | 0.02 | 17 | Fe 0.16 | 84[b] | 26 | 44 | 3 | 60 | | USGS |
| Dec [illegible] 14[illegible] | | 51 | 9.5 | 95 | 66.7 | 7.1 | [illegible] / 0.2[illegible] | 2.3 / 0.1[illegible] | [illegible] / 0.1[illegible] | 1.2 / 0.033 | 0 / 0.000 | 29 / 0.475 | 4.2 / 0.[illegible] | 1.2 / 0.034 | 1.1 / 0.018 | 1.0 / 0.053 | 0.09 | 12 | Fe 0.12 | 46[b] | 19 | 25 | 1 | 190 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento River at Snodgrass Slough | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1230 | | 47 | 11.2 | 95 | 66.2 | 7.1 | 6.4 / 0.319 | 2.4 / 0.201 | 2.8 / 0.122 | 0.9 / 0.023 | 0 / 0.000 | 33 / 0.541 | 3.0 / 0.062 | 2.0 / 0.056 | 0.7 / 0.011 | 0.4 / 0.021 | 0.06 | 14 | | 49[b] | 18 | 26 | 0 | 65 | | USGS |
| Feb 17 1220 | | 44 | 11.2 | 91 | 152 | 7.3 | 13 / 0.649 | 6.4 / 0.523 | 7.2 / 0.313 | 1.1 / 0.028 | 0 / 0.000 | 74 / 1.212 | 7.8 / 0.162 | 5.0 / 0.141 | 0.8 / 0.013 | 0.3 / 0.016 | 0.03 | 21 | | 99[b] | 21 | 59 | 0 | 100 | | USGS |
| Mar 22 1225 | | 52 | 10.7 | 97 | 122 | 7.3 | 4.4 / 0.220 | 9.0 / 0.740 | 2.5 / 0.109 | 1.0 / 0.026 | 0 / 0.000 | 44 / 0.721 | 10 / 0.208 | 4.0 / 0.113 | 0.3 / 0.005 | 0.4 / 0.021 | 0.04 | 19 | | 73[b] | 10 | 48 | 12 | 33 | | USGS |
| Apr 19 0900 | | 54 | 10.2 | 95 | 134 | 7.3 | 11 / 0.549 | 5.7 / 0.471 | 7.2 / 0.313 | 1.0 / 0.026 | 0 / 0.000 | 67 / 1.098 | 6.4 / 0.133 | 6.0 / 0.169 | 0.2 / 0.003 | 0.2 / 0.011 | 0.01 | 18 | | 89[b] | 23 | 51 | 0 | 10 | | USGS |
| May 16 1425 | | 59 | 10.0 | 99 | 103 | 7.5 | 12 / 0.599 | 2.9 / 0.241 | 5.3 / 0.231 | 1.0 / 0.026 | 0 / 0.000 | 57 / 0.934 | 4.0 / 0.083 | 2.5 / 0.070 | 0.5 / 0.008 | 0.3 / 0.016 | 0.09 | 18 | $Fe^{+3}$ 0.01; Al 0.03; Cu 0.01; Zn 0.01; PO 0.20; (a) | 75[b] | 21 | 42 | 0 | 30 | | USGS |
| June 21 1235 | | 68 | 7.4 | 81 | 129 | 7.3 | 11 / 0.549 | 5.2 / 0.431 | 8.4 / 0.365 | 1.0 / 0.026 | 0 / 0.000 | 62 / 1.016 | 8.6 / 0.179 | 6.2 / 0.175 | 0.8 / 0.013 | 0.3 / 0.016 | 0.00 | 21 | Fe 0.01 (a) | 94[b] | 27 | 49 | 0 | 30 | | USGS |
| July 20 1100 | | 70 | 8.3 | 93 | 158 | 7.1 | 12 / 0.599 | 6.6 / 0.541 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 75 / 1.229 | 10 / 0.208 | 8.5 / 0.240 | 0.9 / 0.015 | 0.1 / 0.005 | 0.09 | 18 | | 106[b] | 31 | 57 | 0 | 10 | | USGS |
| Aug 17 1045 | | 70 | 7.5 | 83 | 169 | 6.9 | 14 / 0.699 | 5.4 / 0.441 | 13 / 0.566 | 1.0 / 0.026 | 0 / 0.000 | 80 / 1.311 | 9.4 / 0.196 | 8.7 / 0.245 | 0.8 / 0.013 | 0.3 / 0.016 | 0.09 | 19 | | 110[b] | 33 | 57 | 0 | 4 | | USGS |
| Sept 12 0800 | | 68 | 7.5 | 82 | 224 | 6.8 | 16 / 0.798 | 8.8 / 0.722 | 18 / 0.783 | 1.5 / 0.038 | 0 / 0.000 | 103 / 1.688 | 12 / 0.250 | 14 / 0.395 | 1.0 / 0.016 | 0.0 / 0.000 | 0.10 | 21 | Fe 0.01; Al 0.05; Cu 0.01; $PO_4$ 0.25; (a) | 143[b] | 33 | 76 | 0 | 15 | | USGS |
| Oct 11 1310 | | 63 | 8.3 | 86 | 155 | 7.3 | 13 / 0.649 | 5.6 / 0.463 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 77 / 1.262 | 6.7 / 0.139 | 7.0 / 0.197 | 0.9 / 0.015 | 0.0 / 0.000 | 0.09 | 24 | | 107[b] | 28 | 56 | 0 | | | USGS |
| Nov 21 1325 | | 49 | 10.6 | 93 | 138 | 7.3 | 12 / 0.60 | 4.9 / 0.40 | 8.2 / 0.36 | 1.3 / 0.03 | 0 / 0.00 | 72 / 1.18 | 2.9 / 0.06 | 5.5 / 0.16 | 0.7 / 0.01 | 0.1 / 0.01 | 0.10 | 18 | Fe 0.04; (a) | 89[b] | 26 | 50 | 0 | 7 | | USGS |
| Dec 14 1335 | | 48 | 11.6 | 100 | 153 | 7.5 | 12 / 0.60 | 7.1 / 0.58 | 9.4 / 0.41 | 1.3 / 0.03 | 0 / 0.00 | 78 / 1.28 | 5.8 / 0.12 | 5.5 / 0.16 | 1.0 / 0.02 | 0.1 / 0.01 | 0.03 | 22 | Fe 0.03; (a) | 102[b] | 25 | 59 | 0 | 5 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 180 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Sacramento Slough near Knights Landing | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1115 | 897 | 41 | 11.6 | 91 | 366 | 7.8 | 27 / 1.347 | 19 / 1.573 | 24 / 1.044 | 1.9 / 0.049 | 0 / 0.000 | 198 / 3.245 | | 18 / 0.508 | | | 0.18 | | | | 26 | 146 | 0 | 20 | | USGS |
| Feb 9 1000 | 345 | 48 | 10.0 | 86 | 477 | 7.8 | 34 / 1.70 | 25 / 2.02 | 32 / 1.39 | 1.7 / 0.04 | 0 / 0.00 | 236 / 3.87 | | 32 / 0.90 | | | 0.04 | | | | 27 | 186 | 0 | 25 | | USGS |
| Mar 8 1430 | 178 | 57 | 9.5 | 91 | 479 | [illegible] | 35 / 1.75 | [illegible] | 32 / 1.39 | 2.1 / 0.05 | 0 / 0.00 | 239 / 3.92 | | 36 / 1.02 | | | 0.00 | | | | 27 | 190 | 0 | 30 | | USGS |
| Apr 5 1340 | 354 | 60 | 9.9 | 97 | [illegible] | 8.2 | 22 / 1.09 | 20 / 1.66 | 21 / 0.913 | 1.8 / 0.046 | 0 / 0.000 | 177 / 2.901 | | 22 / 0.620 | | | 0.06 | | | | 25 | 136 | 0 | 10 | | USGS |
| May 16 1000 | 765 | 69 | 8.3 | 90 | 414 | [illegible] | 27 / 1.347 | 20 / 1.643 | 29 / 1.261 | 2.1 / 0.054 | [illegible] | 192 / 3.147 | 14 / [illegible] | 35 / 0.987 | [illegible] / 0.015 | [illegible] / 0.011 | 0.07 | 28 | Al 0.11; Mn 0.01; (a) [illegible] 0.55 | 251[b] | 29 | 149 | 0 | 25 | | USGS |
| Jun 20 0920 | 631 | 74 | 6.6 | 76 | 425 | 7.6 | 34 / 1.697 | 17 / 1.39 | 32 / 1.391 | 1.3 / 0.033 | 0 / 0.000 | 199 / 3.261 | | 38 / 1.072 | | | 0.03 | | | | 31 | 154 | 0 | 20 | | USGS |
| Jul 18 0850 | 415 | 76 | 6.5 | 77 | [illegible] | 7.5 | 36 / 1.80 | 30 / 2.48 | 50 / 2.17 | 1.2 / 0.03 | 0 / 0.00 | 259 / 4.24 | | 68 / 1.92 | | | 0.11 | | | | [illegible] | 214 | 2 | 40 | | USGS |
| Aug 22 0900 | 553 | 76 | 6.7 | 79 | 539 | 7.8 | 35 / 1.75 | 27 / 2.25 | 44 / 1.91 | 1.6 / 0.04 | 0 / 0.00 | 272 / 4.46 | | 44 / 1.24 | | | 0.02 | | | | 30 | 200 | 0 | 220 | | USGS |
| Sep 19 [illegible] | 859 | [illegible] | 7.5 | 81 | [illegible] | 7.4 | 29 / 1.447 | 21 / 1.743 | 21 / 0.948 | 2.3 / 0.059 | 0 / 0.000 | 232 / 3.638 | [illegible] / 0.146 | 24 / 0.677 | [illegible] / 0.008 | 0.3 / 0.016 | [illegible] | 32 | Fe 0.02; Al 0.08; (a) | 257[b] | 29 | 162 | 0 | 20 | | [illegible] |
| Oct 17 0915 | 237 | 66 | 7.8 | 83 | 511 | 7.3 | 36 / 1.80 | 25 / 2.04 | 36 / 1.57 | 1.8 / 0.05 | 0 / 0.00 | 253 / 4.15 | | 46 / 1.3[illegible] | | | 0.11 | | | | 29 | 192 | 0 | 40 | | [illegible] |
| Nov 24 1145 | 771 | 49 | 9.5 | 83 | 419 | [illegible] | 22 / 1.097 | 21 / 1.783 | 30 / 1.305 | 2.9 / 0.077 | 0 / 0.000 | 202 / 3.311 | | 32 / [illegible] | | | 0.17 | | | | 29 | 158 | 0 | 25 | | USGS |
| Dec 19 1[illegible] | 1,030 | 48 | 9.7 | 84 | [illegible] | [illegible] | 19 / 0.94[illegible] | 14 / 1.17[illegible] | 19 / 0.8[illegible] | 2.6 / 0.067 | 0 / 0.000 | 141 / 2.311 | | 18 / 0.5[illegible] | | | 0.07 | | | | 27 | 106 | 0 | 55 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp[a] in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Sacramento Slough near Knights Landing** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 8 1230 | Flood Water | 51 | 10.9 | 97 | 586 | 7.0 | 34 / 1.70 | 23 / 1.93 | 50 / 2.18 | 1.2 / 0.03 | 3 / 0.10 | 171 / 2.80 | | 85 / 2.40 | | | 0.08 | | | | 37 | 182 | 37 | 110 | | USGS |
| Mar 15 1400 | 2,260 | 57 | 11.1 | 107 | 240 | 7.3 | 20 / 0.998 | 10 / 0.846 | 14 / 0.609 | 1.5 / 0.038 | 0 / 0.000 | 123 / 2.016 | | 10 / 0.282 | | | 0.00 | | | | 24 | 92 | 0 | 200 | | USGS |
| Apr 12 1420 | 487 | 58 | 9.5 | 92 | 522 | 7.2 | 40 / 2.000 | 17 / 1.43 | 42 / 1.83 | 1.6 / 0.04 | 0 / 0.00 | 186 / 3.05 | | 68 / 1.92 | | | 0.08 | | | | 35 | 171 | 18 | 30 | | USGS |
| May 14 0930 | 2,280 | 63 | 9.4 | 97 | 194 | 7.2 | 16 / 0.799 | 8.2 / 0.674 | 12 / 0.522 | 1.4 / 0.036 | 0 / 0.000 | 97 / 1.590 | 5.0 / 0.104 | 9.7 / 0.274 | 0.7 / 0.011 | 0.1 / 0.005 | 0.02 | 20 | Fe 0.02; Al 0.05; Cu 0.01; (a) $PO_4$ 0.20 | 121[b] | 26 | 74 | 0 | 35 | | USGS |
| June 18 0830 | 705 | 75 | 6.3 | 74 | 363 | 7.3 | 26 / 1.297 | 19 / 1.551 | 25 / 1.088 | 1.3 / 0.033 | 0 / 0.000 | 194 / 3.180 | | 20 / 0.564 | | | 0.16 | | | | 27 | 142 | 0 | 55 | | USGS |
| July 23 0900 | 504 | 83 | 6.3 | 80 | 400 | 7.7 | 29 / 1.447 | 21 / 1.693 | 29 / 1.262 | 1.4 / 0.036 | 0 / 0.000 | 213 / 3.491 | | 24 / 0.677 | | | 0.11 | | | | 28 | 157 | 0 | 40 | | USGS |
| Aug 20 0900 | 678 | 72 | 7.1 | 81 | 427 | 7.1 | 28 / 1.397 | 24 / 1.963 | 30 / 1.305 | 1.2 / 0.031 | 0 / 0.000 | 228 / 3.737 | | 26 / 0.733 | | | 0.07 | | | | 28 | 168 | 0 | 55 | | USGS |
| Sept 11 0930 | 273 | 71 | 7.7 | 87 | 385 | 7.5 | 28 / 1.397 | 20 / 1.615 | 27 / 1.174 | 1.5 / 0.038 | 0 / 0.000 | 219 / 3.589 | 8.1 / 0.169 | 17 / 0.479 | 0.5 / 0.008 | 0.3 / 0.016 | 0.06 | 28 | Fe 0.02; Al 0.11; Cu 0.01; Zn 0.01; (a) | 238[b] | 28 | 151 | 0 | 20 | | USGS |
| Oct 25 0940 | 215 | 56 | 9.0 | 86 | 404 | 7.9 | 30 / 1.497 | 20 / 1.623 | 28 / 1.218 | 2.4 / 0.061 | 0 / 0.000 | 215 / 3.524 | | 27 / 0.761 | | | 0.01 | | | | 28 | 156 | 0 | 20 | | USGS |
| Nov 13 1015 | 490 | 57 | 8.2 | 79 | 441 | 7.2 | 30 / 1.497 | 23 / 1.855 | 29 / 1.262 | 2.8 / 0.072 | 0 / 0.000 | 230 / 3.770 | | 30 / 0.846 | | | 0.04 | | | | 27 | 168 | 0 | 20 | | USGS |
| Dec 12 0910 | 213 | 44 | 10.4 | 85 | 575 | 7.9 | 43 / 2.15 | 27 / 2.21 | 42 / 1.83 | 2.3 / 0.06 | 0 / 0.00 | 269 / 4.41 | | 58 / 1.64 | | | 0.13 | | | | 29 | 218 | 0 | 20 | median 18 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Joaquin River at Antioch | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 21 1010 | Tidal Area | 44 | 10.2 | 82 | 418 | 7.3 | 26 / 1.297 | 13 / 1.053 | 35 / 1.522 | 2.0 / 0.051 | 0 / 0.000 | 83 / 1.360 | 45 / 0.937 | 54 / 1.523 | 5.3 / 0.085 | 0.3 / 0.016 | 0.00 | 23 | Fe 0.10 | 245[b] | 39 | 118 | 50 | 30 | | USGS |
| Feb 16 1100 | | 50 | 9.3 | 82 | 401 | 7.2 | 24 / 1.198 | 13 / 1.062 | 36 / 1.565 | 2.5 / 0.064 | 0 / 0.000 | 88 / 1.442 | 42 / 0.874 | 50 / 1.410 | 3.3 / 0.053 | 0.3 / 0.016 | 0.11 | 20 | Fe 0.11 | 234[b] | 40 | 113 | 41 | 10 | | USGS |
| Mar 16 1520 | | 59 | 10.9 | 107 | 281 | 7.8 | 22 / 1.098 | 12 / 0.982 | 33 / 1.435 | 2.1 / 0.054 | 0 / 0.000 | 89 / 1.459 | 35 / 0.729 | 47 / 1.326 | 2.3 / 0.037 | 0.2 / 0.011 | 0.14 | 21 | Fe 0.10 | 219[b] | 40 | 104 | 31 | 20 | | USGS |
| Apr 29 1430 | | 58 | 9.7 | 94 | 955 | 7.4 | 22 / 1.10 | 23 / 1.90 | 126 / 5.48 | 6.2 / 0.16 | 0 / 0.00 | 88 / 1.44 | 48 / 1.00 | 218 / 6.15 | 1.8 / 0.03 | 0.2 / 0.02 | 0.17 | 18 | Fe 0.08 | 506[b] | 63 | 150 | 78 | | | USGS |
| May 19 0840 | | 69 | 8.8 | 97 | 192 | 7.9 | 13 / 0.649 | 7.2 / 0.591 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.00 | 69 / 1.131 | 14 / 0.291 | 16 / 0.451 | 0.6 / 0.010 | 0.0 / 0.000 | 0.18 | 20 | Fe 0.03; Al 0.01; (a) $PO_4$ 0.10 | 121[b] | 34 | 62 | 5 | 10 | | USGS |
| Jun 22 1030 | | 69 | 9.3 | 102 | 1270 | 7.8 | 18 / 0.90 | 28 / 2.34 | 184 / 8.00 | 8.0 / 0.20 | 0 / 0.00 | 69 / 1.13 | 59 / 1.23 | [illegible] / [illegible] | 2.7 / 0.04 | 0.2 / 0.01 | 0.31 | 14 | Fe 0.14 | 662[b] | 70 | 162 | 105 | 60 | | USGS |
| Jul 20 1200 | | 71 | 8.9 | 100 | 2450 | 7.5 | 31 / 1.55 | 52 / 4.29 | 398 / 17.31 | 17 / 0.43 | 0 / 0.00 | 79 / 1.29 | 195 / 4.06 | 425 / 17.65 | 2.0 / 0.03 | 0.2 / 0.01 | 0.20 | 13 | Fe 0.16 | 1370[b] | 73 | 292 | 227 | 45 | | USGS |
| Aug 24 1230 | | 72 | 8.3 | 94 | 6530 | 7.5 | 61 / 3.04 | 138 / 11.36 | 1040 / 45.22 | 42 / 1.07 | 0 / 0.00 | 94 / 1.54 | 294 / 6.12 | 1950 / 55.00 | 2.3 / 0.04 | 0.3 / 0.02 | 0.52 | 9.4 | Fe 0.09 | 3580[b] | 75 | 720 | 643 | 50 | | USGS |
| Sep 22 1350 | | 68 | 7.7 | 84 | 2630 | 7.7 | 33 / 1.65 | 54 / 4.41 | 405 / 17.61 | 17 / 0.43 | 0 / 0.00 | 104 / 1.70 | 114 / 2.37 | 720 / 20.31 | 1.2 / 0.02 | 0.3 / 0.02 | 0.24 | 17 | Fe 0.09; Al 0.18; Zn 0.01; $PO_4$ 0.20 (a) | 1410[b] | 73 | 303 | 218 | 55 | | USGS |
| Oct 20 0815 | | 61 | 7.6 | 77 | 1020 | 7.3 | 18 / 0.90 | 26 / 2.12 | 138 / 6.00 | 7.2 / 0.18 | 0 / 0.00 | 116 / 1.90 | 42 / 0.90 | [illegible] / 6.43 | 1.6 / 0.04 | 0.3 / 0.02 | 0.02 | 22 | Fe 0.12 | 607[b] | 65 | 151 | 56 | 55 | | USGS |
| Nov 23 1110 | | 51 | 8.6 | 77 | 991 | 7.3 | 20 / 1.00 | 24 / 1.94 | 135 / 5.87 | 6.8 / 0.17 | 0 / 0.00 | 99 / 1.62 | 45 / 0.94 | 229 / 6.46 | 2.8 / 0.05 | 0.4 / 0.02 | 0.08 | 23 | Fe 0.24 | 535[b] | 65 | 147 | 66 | 50 | | USGS |
| Dec 21 1440 | | 52 | 9.5 | 86 | 375 | 7.3 | 16 / 0.798 | 11 / 0.922 | 42 / 1.827 | 2.9 / 0.074 | 0 / 0.000 | 80 / 1.311 | 23 / 0.479 | 61 / 1.720 | 1.3 / 0.021 | 0.5 / 0.026 | 0.18 | 21 | Fe 0.16 | 218[b] | 50 | 86 | 20 | 30 | median 230 minimum 2.3 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen % Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Joaquin River at Antioch | | | | | | | | | | | | | | | | | | | |
| 1956 | Tidal Area | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1430 | | 49 | 9.3 | 81 | 231 | 7.1 | 15 / 0.748 | 7.2 / 0.592 | 17 / 0.740 | 2.1 / 0.054 | 0 / 0.000 | 50 / 0.820 | 29 / 0.604 | 24 / 0.677 | 3.5 / 0.056 | 0.4 / 0.021 | 0.16 | 16 | | 139[b] | 35 | 67 | 26 | 65 | | USGS |
| Feb 16 1600 | | 46 | 10.8 | 90 | 266 | 7.5 | 17 / 0.848 | 8.2 / 0.672 | 22 / 0.957 | 1.9 / 0.049 | 0 / 0.000 | 70 / 1.147 | 26 / 0.541 | 28 / 0.790 | 2.0 / 0.032 | 0.3 / 0.016 | 0.08 | 18 | | 157[b] | 38 | 76 | 19 | 90 | | USGS |
| Mar 21 1500 | | 54 | 10.1 | 94 | 318 | 7.3 | 16 / 0.798 | 7.3 / 0.602 | 22 / 0.957 | 1.9 / 0.049 | 0 / 0.000 | 92 / 1.508 | 20 / 0.416 | 12 / 0.338 | 0.9 / 0.015 | 0.8 / 0.042 | 0.19 | 20 | | 146[b] | 40 | 70 | 0 | 33 | | USGS |
| Apr 18 1115 | | 58 | 9.4 | 92 | 217 | 7.3 | 14 / 0.699 | 7.8 / 0.641 | 17 / 0.740 | 1.4 / 0.036 | 0 / 0.000 | 71 / 1.164 | 15 / 0.312 | 24 / 0.677 | 0.4 / 0.006 | 0.3 / 0.016 | 0.10 | 15 | | 130[b] | 35 | 67 | 9 | 25 | | USGS |
| May 16 1030 | | 63 | 8.9 | 92 | 151 | 7.3 | 11 / 0.549 | 4.7 / 0.387 | 12 / 0.522 | 1.4 / 0.036 | 0 / 0.000 | 53 / 0.869 | 11 / 0.229 | 15 / 0.423 | 0.8 / 0.013 | 0.1 / 0.005 | 0.05 | 17 | Fe 0.14; Al 0.07; Cu 0.02; $PO_4$ 0.17; (a) | 99[b] | 35 | 47 | 4 | 45 | | USGS |
| June 20 1705 | | 70 | 7.8 | 87 | 126 | 7.5 | 9.2 / 0.459 | 4.0 / 0.329 | 10 / 0.435 | 1.3 / 0.033 | 0 / 0.000 | 47 / 0.770 | 7.4 / 0.154 | 12 / 0.338 | 1.0 / 0.016 | 0.2 / 0.011 | 0.30 | 16 | Fe 0.10; (a) | 84[b] | 35 | 39 | 0 | 25 | | USGS |
| July 24 1245 | | 74 | 8.5 | 99 | 599 | 7.0 | 16 / 0.80 | 13 / 1.08 | 77 / 3.35 | 3.9 / 0.10 | 0 / 0.00 | 67 / 1.10 | 29 / 0.60 | 130 / 3.67 | 0.4 / 0.01 | 0.1 / 0.01 | 0.00 | 10 | | 312[b] | 63 | 94 | 39 | 30 | | USGS |
| Aug 22 1045 | | 70 | 8.4 | 93 | 1,130 | 7.5 | 21 / 1.05 | 23 / 1.91 | 172 / 7.48 | 6.8 / 0.17 | 0 / 0.00 | 76 / 1.25 | 50 / 1.04 | 284 / 8.01 | 0.2 / 0.01 | 0.2 / 0.02 | 0.16 | 14 | | | 70 | 148 | 86 | 40 | | USGS |
| Sept 13 1245 | | 69 | 8.5 | 94 | 706 | 7.0 | 18 / 0.90 | 16 / 1.33 | 96 / 4.18 | 3.8 / 0.10 | 0 / 0.00 | 85 / 1.39 | 32 / 0.67 | 158 / 4.46 | 1.0 / 0.02 | 0.1 / 0.01 | 0.08 | 14 | Fe 0.05; Al 0.13; Zn 0.01; $PO_4$ 0.20; (a) | 381[b] | 64 | 112 | 42 | 15 | | USGS |
| Oct 16 1430 | | 68 | 7.5 | 82 | 441 | 7.0 | 16 / 0.798 | 12 / 0.982 | 51 / 2.218 | 2.9 / 0.074 | 0 / 0.000 | 89 / 1.459 | 15 / 0.312 | 81 / 2.284 | 0.9 / 0.015 | 0.1 / 0.005 | 0.11 | 18 | Fe 0.01; (a) | 241[b] | 54 | 89 | 16 | | | USGS |
| Nov 21 0930 | | 51 | 9.5 | 85 | 359 | 7.4 | 16 / 0.80 | 9.5 / 0.78 | 38 / 1.65 | 2.5 / 0.06 | 0 / 0.00 | 79 / 1.29 | 16 / 0.33 | 58 / 1.64 | 1.0 / 0.02 | 0.3 / 0.02 | 0.16 | 19 | Fe 0.16; (a) | 200[b] | 50 | 79 | 14 | 36 | | USGS |
| Dec 19 1025 | | 42 | 9.7 | 77 | 607 | 7.1 | 19 / 0.95 | 15 / 1.27 | 74 / 3.22 | 3.7 / 0.09 | 0 / 0.00 | 86 / 1.41 | 28 / 0.58 | 125 / 3.52 | 1.6 / 0.03 | 0.2 / 0.01 | 0.02 | 18 | Fe 0.14; (a) | 327[b] | 58 | 111 | 40 | 40 | median 230 minimum 2.3 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Joaquin River near Dos Palos | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1125 | Not Rated | 44 | 11.6 | 95 | 169 | 7.1 | 12 / 0.599 | 2.8 / 0.231 | 18 / 7.83 | 1.1 / 0.028 | 0 / 0.000 | 53 / 0.869 | | 19 / 0.536 | | | 0.16 | | | | 48 | 42 | 0 | 45 | | [illegible] |
| Feb 9 0940 | " | 52 | 10.5 | 95 | 283 | 7.3 | 17 / 0.848 | 6.2 / 0.512 | 31 / 1.348 | 1.9 / 0.049 | 0 / 0.000 | 79 / 1.295 | | 35 / 0.987 | | | 0.04 | | | | 49 | 68 | 3 | 20 | | [illegible] |
| Mar 10 1110 | " | 58 | 9.4 | 92 | 630 | 7.6 | 32 / 1.60 | 14 / 1.16 | 71 / 3.09 | 2.8 / 0.07 | 0 / 0.00 | 96 / 1.57 | | 94 / 2.65 | | | 0.34 | | | | 52 | 138 | 59 | 30 | | [illegible] |
| Apr 11 [illegible] | " | 64 | 10.3 | 108 | 569 | 8.0 | 29 / 1.45 | 1.7 / 1.39 | 57 / 2.48 | 2.9 / 0.07 | 0 / 0.00 | 100 / 1.64 | | 80 / 2.26 | | | 0.16 | | | | 46 | 142 | 60 | 20 | | [illegible] |
| May 9 1400 | " | 72 | 9.7 | 110 | 5[illegible] | 8.0 | 33 / 1.65 | 13 / 1.07 | 58 / 2.52 | 3.0 / 0.08 | 0 / 0.00 | 115 / 1.88 | 55 / 1.15 | 80 / 2.26 | 1.2 / 0.02 | 0.4 / 0.02 | 0.21 | 19 | $PO_4$ 0.20 | 320[b] | 48 | 134 | 40 | 35 | | [illegible] |
| Jun 13 1300 | " | 74 | 8.7 | 100 | 442 | 7.7 | 26 / 1.297 | 10 / 0.863 | 45 / 1.957 | 2.5 / 0.064 | 0 / 0.000 | 92 / 1.508 | | 65 / 1.833 | | | 0.13 | | | | 47 | 108 | 33 | 50 | | [illegible] |
| Jul 14 1300 | " | 83 | 7.8 | 99 | 392 | 7.0 | 26 / 1.297 | 10 / 0.843 | 38 / 1.652 | 2.8 / 0.072 | 0 / 0.000 | 94 / 1.541 | | 47 / 1.326 | | | 0.16 | | | | 43 | 107 | 30 | 35 | | [illegible] |
| Aug 16 0920 | " | 74 | 8.0 | 93 | 482 | 7.3 | 22 / 1.098 | 12 / 0.962 | 54 / 2.348 | 2.9 / 0.074 | 0 / 0.000 | 101 / 1.655 | | 73 / 2.059 | | | 0.10 | | | | 52 | 103 | 20 | 30 | | [illegible] |
| Sep 12 1435 | " | 76 | 5.5 | 65 | 610 | 7.3 | 25 / 1.25 | 15 / 1.25 | 73 / 3.17 | 3.3 / 0.08 | 0 / 0.00 | 106 / 1.74 | 43 / 0.90 | 110 / 3.10 | 0.6 / 0.01 | 0.1 / 0.01 | 0.18 | 17 | Fe 0.01; Al 0.04; Cu 0.02; (a) | 339[b] | 55 | 125 | 38 | 5 | | [illegible] |
| Oct 10 1445 | " | 66 | 6.6 | 70 | 646 | 7.0 | 30 / 1.50 | 14 / 1.15 | 78 / 3.39 | 3.5 / 0.09 | 0 / 0.00 | 115 / 1.88 | | 112 / 3.16 | | | 0.16 | | | | 55 | 133 | 39 | 9 | | [illegible] |
| Nov 16 1[illegible] | " | 47 | 7.4 | 63 | 653 | 7.1 | 34 / 1.70 | 15 / 1.27 | 73 / 3.18 | 3.7 / 0.09 | 0 / 0.00 | 129 / 2.11 | | 111 / 3.13 | | | 0.13 | | | | 51 | 149 | 43 | 35 | | [illegible] |
| Dec | Not accessible | | | | | | | | | | | | | | | | | | | | | | | | median 11.2 minimum .23 maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Joaquin River near Dos Palos | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 9 1340 | Not Rated | 47 | 10.2 | 87 | 57.7 | 6.9 | 4.6 / 0.230 | 0.9 / 0.078 | 4.3 / 0.187 | 1.4 / 0.036 | 0 / 0.000 | 21 / 0.344 | | 0.0 / 0.000 | | | 0.03 | | | | 35 | 15 | 0 | 45 | | USGS |
| Feb 6 1240 | " | 47 | 11.4 | 97 | 61.9 | 7.1 | 5.8 / 0.289 | 0.5 / 0.045 | 5.0 / 0.218 | 1.1 / 0.028 | 0 / 0.000 | 26 / 0.426 | | 1.1 / 0.031 | | | 0.09 | | | | 38 | 17 | 0 | 25 | | USGS |
| Mar 12 1240 | " | 53 | 10.0 | 92 | 332 | 7.3 | 17 / 0.848 | 7.3 / 0.600 | 39 / 1.696 | 1.9 / 0.049 | 0 / 0.000 | 72 / 1.180 | | 43 / 1.213 | | | 0.31 | | | | 53 | 72 | 13 | 75 | | USGS |
| Apr 9 1235 | " | 70 | 9.0 | 100 | 166 | 7.1 | 12 / 0.599 | 2.7 / 0.221 | 16 / 0.696 | 1.5 / 0.038 | 0 / 0.000 | 55 / 0.901 | | 18 / 0.508 | | | 0.12 | | | | 45 | 41 | 0 | 10 | | USGS |
| May 5 1350 | " | 65 | 7.9 | 84 | 147 | 7.1 | 10 / 0.499 | 2.7 / 0.221 | 15 / 0.652 | 1.5 / 0.038 | 0 / 0.000 | 51 / 0.836 | 8.0 / 0.167 | 15 / 0.423 | 0.5 / 0.008 | 0.2 / 0.011 | 0.9 | 14 | Fe 0.11; Zn 0.02; $PO_4$ 0.00; (a) | 92[b] | 46 | 36 | 0 | 20 | | USGS |
| June 13 1040 | " | 65 | 9.0 | 95 | 45.5 | 7.0 | 4.0 / 0.200 | 0.8 / 0.066 | 3.8 / 0.165 | 0.8 / 0.020 | 0 / 0.000 | 23 / 0.377 | | 2.8 / 0.079 | | | 0.03 | | | | 37 | 13 | 0 | 15 | | USGS |
| July 16 1330 | " | 80 | 9.1 | 112 | 386 | 7.2 | 24 / 1.198 | 7.3 / 0.602 | 41 / 1.784 | 2.1 / 0.054 | 0 / 0.000 | 80 / 1.311 | | 57 / 1.607 | | | 0.48 | | | | 49 | 90 | 24 | 55 | | USGS |
| Aug 13 1415 | " | 80 | 10.0 | 123 | 358 | 7.2 | 21 / 1.048 | 8.4 / 0.692 | 36 / 1.566 | 2.2 / 0.056 | 0 / 0.000 | 79 / 1.295 | | 50 / 1.410 | | | 0.09 | | | | 47 | 87 | 22 | 30 | | USGS |
| Sept 17 1230 | " | 73 | 10.5 | 120 | 547 | 7.9 | 31 / 1.55 | 12 / 1.01 | 61 / 2.65 | 2.9 / 0.07 | 0 / 0.00 | 115 / 1.88 | 47 / 0.98 | 85 / 2.40 | 0.9 / 0.01 | 0.2 / 0.01 | 0.18 | 17 | Fe 0.04; Al 0.05; Cu 0.01; $PO_4$ 0.25; (a) | 314[b] | 50 | 128 | 34 | 15 | | USGS |
| Oct 8 1300 | " | 70 | 9.4 | 104 | 167 | 7.5 | 11 / 0.549 | 3.4 / 0.279 | 17 / 0.740 | 1.5 / 0.038 | 0 / 0.000 | 51 / 0.836 | | 19 / 0.536 | | | 0.01 | | | | 46 | 41 | 0 | 10 | | USGS |
| Nov 13 1225 | " | 57 | 10.1 | 97 | 240 | 7.7 | 16 / 0.80 | 4.5 / 0.37 | 23 / 1.00 | 1.6 / 0.04 | 0 / 0.00 | 68 / 1.11 | | 29 / 0.82 | | | 0.03 | | | | 45 | 58 | 2 | 6 | | USGS |
| Dec 10 1100 | " | 45 | 12.8 | 106 | 659 | 7.5 | 38 / 1.90 | 13 / 1.10 | 73 / 3.18 | 3.0 / 0.08 | 0 / 0.00 | 104 / 1.70 | | 74 / 2.09 | | | 0.31 | | | | 51 | 150 | 65 | 3 | median 6.2 minimum .62 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **San Joaquin River at Friant** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1350 | 113 | 49 | 11.4 | 99 | 70.1 | 7.0 | 6.9 / 0.344 | 0.6 / 0.046 | 6.0 / 0.261 | 1.0 / 0.026 | 0 / 0.000 | 26 / 0.426 | | 6.0 / 0.169 | | | 0.12 | | | | 39 | 20 | 0 | 35 | | USGS |
| Feb 11 0900 | 54 | 46 | 11.1 | 93 | 70.9 | 6.8 | 6.2 / 0.309 | 0.9 / 0.071 | 6.3 / 0.274 | 0.8 / 0.020 | 0 / 0.000 | 29 / 0.475 | | 5.8 / 0.164 | | | 0.04 | | | | 41 | 19 | 0 | 2 | | USGS |
| Mar 8 0930 | 70 | 52 | 11.6 | 105 | 70.0 | 7.2 | 5.9 / 0.294 | 0.8 / 0.066 | 6.1 / 0.265 | 1.1 / 0.028 | 0 / 0.000 | 28 / 0.459 | | 4.5 / 0.127 | | | 0.06 | | | | 41 | 18 | 0 | 2 | | USGS |
| Apr 12 0850 | 128 | 49 | 13.0 | 113 | 49.6 | 7.1 | 1.9 / 0.095 | 2.1 / 0.169 | 4.6 / 0.200 | 0.8 / 0.020 | 0 / 0.000 | 22 / 0.361 | | 4.4 / 0.124 | | | 0.02 | | | | 41 | 13 | 0 | 1 | | USGS |
| May 10 0840 | 78 | 50 | 12.1 | 107 | 59.9 | 7.3 | 2.5 / 0.125 | 2.4 / 0.199 | 5.8 / 0.252 | 0.7 / 0.018 | 0 / 0.000 | 28 / 0.459 | 1.2 / 0.025 | 3.4 / 0.096 | 0.0 / 0.000 | 0.2 / 0.011 | 0.02 | 15 | Fe 0.03; Al 0.04; (a) $PO_4$ 0.10 | 45[b] | 42 | 16 | 0 | 4 | | USGS |
| Jun 14 0845 | 166 | 49 | 12.4 | 108 | 50.9 | 7.2 | 4.7 / 0.235 | 0.7 / 0.055 | 4.7 / 0.204 | 0.8 / 0.020 | 0 / 0.000 | 22 / 0.361 | | 3.8 / 0.107 | | | 0.07 | | | | 40 | 14 | 0 | 3 | | USGS |
| Jul 13 0715 | 190 | 52 | 11.5 | 104 | 67.5 | 7.2 | 4.2 / 0.210 | 1.0 / 0.080 | 6.7 / 0.291 | 1.2 / 0.031 | 0 / 0.000 | 24 / 0.393 | | 5.2 / 0.147 | | | 0.02 | | | | 48 | 14 | 0 | 3 | | USGS |
| Aug 18 1100 | 195 | 54 | 12.3 | 114 | 52.1 | 7.2 | 3.8 / 0.190 | 1.3 / 0.110 | 4.8 / 0.209 | 0.6 / 0.015 | 0 / 0.000 | 22 / 0.361 | | 3.5 / 0.099 | | | 0.02 | | | | 40 | 15 | 0 | 2 | | USGS |
| Sep 15 0750 | 164 | 48 | 10.0 | 86 | 50.5 | 7.1 | 4.6 / 0.230 | 0.5 / 0.042 | 4.5 / 0.196 | 0.6 / 0.015 | 0 / 0.000 | 22 / 0.361 | 2.0 / 0.042 | 2.6 / 0.073 | 0.2 / 0.003 | 0.2 / 0.011 | 0.07 | 11 | Fe 0.03; Cu 0.01. (a) | 37[b] | 41 | 14 | 0 | 2 | | USGS |
| Oct 12 0900 | 119 | 49 | 11.1 | 97 | 53.0 | 7.1 | 3.9 / 0.195 | 1.0 / 0.085 | 5.1 / 0.222 | 1.0 / 0.026 | 0 / 0.000 | 22 / 0.361 | | 4.2 / 0.118 | | | 0.05 | | | | 42 | 14 | 0 | 8 | | USGS |
| Nov 16 0845 | 61 | 45 | 10.2 | 84 | 55.5 | 6.9 | 4.2 / 0.210 | 0.4 / 0.034 | 4.3 / 0.187 | 0.7 / 0.018 | 0 / 0.000 | 20 / 0.328 | | 4.2 / 0.118 | | | 0.00 | | | | 42 | 12 | 0 | 30 | | USGS |
| Dec 14 0920 | 808 | 48 | 11.3 | 97 | 47.3 | 7.0 | 4.9 / 0.245 | 0.4 / 0.035 | 4.2 / 0.183 | 0.7 / 0.018 | 0 / 0.000 | 20 / 0.328 | | 3.2 / 0.090 | | | 0.01 | | | | 38 | 14 | 0 | 7 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 minimum .62 maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **San Joaquin River at Friant** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 0855 | 5,140 | 44 | 11.9 | 97 | 40.2 | 7.0 | 3.8 / 0.190 | 0.5 / 0.040 | 2.8 / 0.122 | 1.1 / 0.028 | 0 / 0.000 | 20 / 0.328 | | 1.8 / 0.051 | | | 0.01 | | | | 32 | 12 | 0 | 25 | | USGS |
| Feb 8 0900 | 6,040 | 44 | 12.6 | 102 | 44.1 | 7.1 | 4.5 / 0.225 | 0.4 / 0.031 | 3.4 / 0.148 | 1.0 / 0.026 | 0 / 0.000 | 22 / 0.361 | | 0.9 / 0.025 | | | 0.07 | | | | 34 | 13 | 0 | 30 | | USGS |
| Mar 13 0840 | 1,570 | 43 | 13.7 | 110 | 44.7 | 7.1 | 4.6 / 0.230 | 0.4 / 0.030 | 3.7 / 0.161 | 0.9 / 0.023 | 0 / 0.000 | 23 / 0.377 | | 2.0 / 0.056 | | | 0.01 | | | | 36 | 13 | 0 | 6 | | USGS |
| Apr 10 0850 | 1,570 | 45 | 13.2 | 109 | 43.4 | 7.0 | 4.0 / 0.200 | 0.7 / 0.060 | 3.9 / 0.170 | 1.1 / 0.028 | 0 / 0.000 | 25 / 0.410 | | 1.9 / 0.054 | | | 0.11 | | | | 37 | 13 | 0 | 5 | | USGS |
| May 8 0810 | 1,190 | 47 | 12.6 | 107 | 38.1 | 6.9 | 4.8 / 0.240 | 1.2 / 0.100 | 3.2 / 0.139 | 0.7 / 0.018 | 0 / 0.000 | 23 / 0.377 | 2.0 / 0.042 | 2.5 / 0.070 | 0.3 / 0.005 | 0.0 / 0.000 | 0.02 | 13 | Zn 0.01; $PO_4$ 0.00 (a) | 39[b] | 28 | 17 | 0 | 5 | | USGS |
| June 12 0900 | 4,180 | 53 | 11.6 | 106 | 28.6 | 7.0 | 3.2 / 0.160 | 0.2 / 0.020 | 2.1 / 0.091 | 0.7 / 0.018 | 0 / 0.000 | 18 / 0.295 | | 0.6 / 0.017 | | | 0.02 | | | | 31 | 9 | 0 | 2 | | USGS |
| July 18 0920 | 126 | 57 | 10.8 | 104 | 26.6 | 6.8 | 2.4 / 0.120 | 0.6 / 0.050 | 2.1 / 0.091 | 0.8 / 0.020 | 0 / 0.000 | 16 / 0.262 | | 0.6 / 0.017 | | | 0.05 | | | | 33 | 8 | 0 | 0.8 | | USGS |
| Aug 15 0845 | 177 | 56 | 11.0 | 104 | 27.3 | 6.8 | 2.6 / 0.130 | 0.3 / 0.023 | 2.1 / 0.091 | 0.8 / 0.020 | 0 / 0.000 | 16 / 0.267 | | 0.0 / 0.000 | | | 0.00 | | | | 34 | 8 | 0 | 1 | | USGS |
| Sept 18 0730 | 146 | 54 | 10.3 | 96 | 25.0 | 7.1 | 2.4 / 0.120 | 1.2 / 0.100 | 2.0 / 0.087 | 0.8 / 0.020 | 0 / 0.000 | 16 / 0.262 | 1.9 / 0.040 | 0.5 / 0.014 | 0.3 / 0.005 | 0.0 / 0.000 | 0.02 | 10 | Cu 0.08; $PO_4$ 0.00; (a) | 27[b] | 27 | 11 | 0 | 1 | | USGS |
| Oct 9 0835 | 712 | 54 | 11.5 | 107 | 25.3 | 6.8 | 2.8 / 0.140 | 0.0 / 0.000 | 1.8 / 0.078 | 0.6 / 0.015 | 0 / 0.000 | 12 / 0.197 | | 0.0 / 0.000 | | | 0.00 | | | | 33 | 7 | 0 | 1.0 | | USGS |
| Nov 13 1620 | 598 | 56 | 10.7 | 102 | 33.0 | 6.8 | 3.3 / 0.16 | 0.4 / 0.03 | 2.4 / 0.10 | 0.7 / 0.02 | 0 / 0.000 | 14 / 0.23 | | 2.0 / 0.06 | | | 0.03 | | | | 32 | 10 | 0 | 5 | | USGS |
| Dec 10 1625 | 284 | 51 | 11.1 | 99 | 39.2 | 6.8 | 4.0 / 0.20 | 1.7 / 0.14 | 2.7 / 0.12 | 0.9 / 0.02 | 0 / 0.00 | 16 / 0.26 | | 2.0 / 0.06 | | | 0.10 | | | | 25 | 17 | 4 | 3 | median 6.2 minimum .23 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Joaquin River at Carwood Bridge | | | | | | | | | | | | | | | |
| 1955 | Tidal Area | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1300 | | 46 | 9.8 | 81 | 234 | 7.1 | 15 / 0.749 | 5.4 / 0.441 | 23 / 1.000 | 4.7 / 0.120 | 0 / 0.000 | 66 / 1.082 | | 26 / 0.733 | | | 0.07 | | | | 43 | 60 | 6 | 75 | | [illegible] |
| Feb 15 1420 | | 54 | 9.1 | 84 | 529 | 7.4 | 28 / 1.40 | 13 / 1.04 | 58 / 2.52 | 2.5 / 0.06 | 0 / 0.000 | 102 / 1.67 | | 78 / 2.20 | | | 0.17 | | | | 50 | 122 | 38 | 10 | | [illegible] |
| Mar 15 1340 | | 57 | 9.9 | 95 | 546 | 7.4 | 24 / 1.20 | 16 / 1.28 | 59 / 2.57 | 2.7 / 0.07 | 0 / 0.00 | 101 / 1.66 | | 86 / 2.43 | | | 0.14 | | | | 50 | 124 | 41 | 12 | | [illegible] |
| Apr 21 0910 | | 59 | 8.1 | 80 | 611 | 7.6 | 34 / 1.70 | 15 / 1.22 | 65 / 2.83 | 5.6 / 0.14 | 0 / 0.00 | 159 / 2.61 | | 90 / 2.54 | | | 0.22 | | | | 48 | 146 | 16 | 10 | | [illegible] |
| May 1[illegible] 1520 | | 72 | 5.3 | 60 | 7[illegible] | 7.8 | 42 / 2.1[illegible] | 20 / 1.64 | 82 / 3.57 | 4.8 / 0.12 | 0 / 0.00 | 174 / 2.8[illegible] | 4[illegible] / [illegible] | 126 / 3.53 | 3.0 / 0.0[illegible] | 0.2 / 0.01 | 0.22 | 22 | Fe 0.01; Al 0.0[illegible]; $PO_4$ 0.20 | 427[b] | 48 | 187 | 44 | 190 | | [illegible] |
| Jun 23 0845 | | 71 | 5.6 | 63 | 442 | 7.4 | 35 / 1.748 | 12 / 0.992 | 47 / 2.044 | 3.1 / 0.0[illegible] | 0 / 0.00 | 106 / 1.737 | | 70 / 1.974 | | | 0.21 | | | | 47 | 110 | [illegible] | 30 | | [illegible] |
| Jul 1[illegible] 1430 | | 76 | 8.8 | 104 | 575 | 7.3 | 18 / 0.90 | 21 / 1.76 | 63 / 2.74 | 5.1 / 0.13 | 0 / 0.00 | 131 / 2.15 | | 85 / 2.40 | | | 0.16 | | | | 50 | 133 | 26 | 60 | | [illegible] |
| Aug 25 0900 | | 75 | 1.6 | 19 | 612 | 7.3 | 31 / 1.55 | 14 / 1.17 | 60 / 2.61 | 4.9 / 0.13 | 0 / 0.00 | 1[illegible] / 2.98 | | 90 / 2.54 | | | 0.14 | | | | 48 | 136 | 0 | 1 | | [illegible] |
| Sep [illegible]1 1[illegible] | | 72 | [illegible] | 85 | 74[illegible] | 7.5 | 4[illegible] / [illegible] | 1[illegible] / 0.75 | [illegible] / 3.65 | 5.2 / 0.13 | 0 / 0.00 | 1[illegible] / 2.7[illegible] | [illegible] / [illegible] | 1[illegible] / [illegible] | 4.3 / 0.0[illegible] | 0.5 / 0.03 | 0.[illegible] | 7.4 | Fe 0.02; Al 0.0[illegible]; Cu 0.01; Zn 0.01; (a) | 597[b] | 52 | 16[illegible] | [illegible] | [illegible] | | [illegible] |
| Oct 17 16[illegible] | | [illegible] | [illegible] | [illegible] | 1[illegible] | 7.5 | 54 / [illegible] | [illegible] / 1.[illegible] | 119 / 5.18 | 6.2 / 0.16 | 0 / 0.00 | 2[illegible] / 3.[illegible] | | 1[illegible] / 5.08 | | | 0.30 | | | | 52 | 427 | 64 | 15 | | [illegible] |
| Nov [illegible]1 1[illegible] | | 1 | [illegible] | [illegible] | 1[illegible] | 7.5 | [illegible] / [illegible] | [illegible] / 1.91 | 114 / 4.96 | 5.6 / 0.14 | 0 / 0.00 | 1[illegible] / 3.77 | | 1[illegible] / 5.13 | | | 0.19 | | | | 5[illegible] | [illegible] | [illegible] | 75 | | [illegible] |
| Dec 19 1[illegible] | | [illegible] | [illegible] | [illegible] | 54[illegible] | 7.[illegible] | [illegible] / 1.[illegible] | 1[illegible] / [illegible] | 61 / 2.65 | 3.5 / [illegible] | 0 / [illegible] | 1[illegible] / 1.7[illegible] | | [illegible] / [illegible] | | | 0.26 | | | | 51 | 1[illegible] | [illegible] | 25 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 960<br>minimum 62<br>maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

San Joaquin River at Garwood Bridge

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1430 | | 51 | 9.1 | 81 | 181 | 7.3 | 12 / 0.599 | 5.6 / 0.461 | 15 / 0.652 | 2.1 / 0.054 | 0 / 0.000 | 57 / 0.934 | | 15 / 0.423 | | | 0.12 | | | | 37 | 53 | 6 | 60 | | USGS |
| Feb 14 1440 | | 49 | 10.2 | 89 | 243 | 7.3 | 16 / 0.798 | 6.3 / 0.522 | 24 / 1.044 | 1.7 / 0.043 | 0 / 0.000 | 71 / 1.164 | | 30 / 0.846 | | | 0.11 | | | | 38 | 66 | 8 | 55 | | USGS |
| Mar 20 0840 | | 56 | 9.5 | 90 | 446 | 7.3 | 26 / 1.297 | 10 / 0.863 | 41 / 1.784 | 2.3 / 0.059 | 0 / 0.000 | 99 / 1.623 | | 68 / 1.918 | | | 0.28 | | | | 45 | 108 | 27 | 20 | | USGS |
| Apr 17 0830 | | 55 | 10.0 | 94 | 214 | 7.3 | 13 / 0.649 | 5.7 / 0.467 | 20 / 0.870 | 1.7 / 0.043 | 0 / 0.000 | 62 / 1.016 | | 26 / 0.733 | | | 0.07 | | | | 43 | 56 | 5 | 15 | | USGS |
| May 15 0745 | | 60 | 9.3 | 93 | 137 | 7.3 | 11 / 0.549 | 2.6 / 0.211 | 13 / 0.566 | 1.3 / 0.033 | 0 / 0.000 | 46 / 0.754 | 8.0 / 0.167 | 14 / 0.395 | 0.6 / 0.010 | 0.3 / 0.016 | 0.10 | 14 | Fe 0.07; Al 0.03; Cu 0.01; Zn 0.01; $PO_4$ 0.20; (a) | 88 b | 42 | 38 | 0 | 25 | | USGS |
| June 15 0845 | | 66 | 8.5 | 91 | 123 | 6.8 | 9.2 / 0.459 | 3.7 / 0.301 | 11 / 0.478 | 1.2 / 0.031 | 0 / 0.000 | 44 / 0.721 | | 13 / 0.367 | | | 0.13 | | | | 38 | 38 | 2 | 80 | | USGS |
| July 23 1530 | | 82 | 6.1 | 77 | 642 | 7.3 | 37 / 1.85 | 16 / 1.35 | 68 / 2.96 | 3.5 / 0.09 | 0 / 0.00 | 149 / 2.44 | | 104 / 2.93 | | | 0.18 | | | | 47 | 160 | 38 | 9 | | USGS |
| Aug 20 1220 | | 75 | 5.9 | 69 | 680 | 7.7 | 40 / 2.00 | 15 / 1.22 | 73 / 3.18 | 3.6 / 0.09 | 0 / 0.00 | 143 / 2.34 | | 115 / 3.24 | | | 0.12 | | | | 49 | 161 | 44 | 15 | | USGS |
| Sept 14 0800 | | 70 | 9.3 | 104 | 552 | 6.9 | 31 / 1.55 | 12 / 0.99 | 63 / 2.74 | 3.1 / 0.08 | 0 / 0.00 | 126 / 2.07 | 35 / 0.73 | 88 / 2.48 | 1.9 / 0.03 | 0.1 / 0.01 | 0.15 | 19 | Fe 0.01; Al 0.08; Cu 0.01; $PO_4$ 0.35; (a) | 315 b | 51 | 127 | 24 | 20 | | USGS |
| Oct 17 0950 | | 64 | 9.3 | 97 | 547 | 7.2 | 31 / 1.55 | 12 / 0.97 | 58 / 2.52 | 3.1 / 0.08 | 0 / 0.00 | 125 / 2.05 | | 88 / 2.48 | | | 0.11 | | | | 49 | 126 | 24 | 15 | | USGS |
| Nov 19 1615 | | 51 | 10.2 | 91 | 567 | 7.7 | 30 / 1.50 | 13 / 1.10 | 62 / 2.70 | 2.8 / 0.07 | 0 / 0.00 | 121 / 1.98 | | 92 / 2.59 | | | 0.14 | | | | 50 | 130 | 31 | 6 | | USGS |
| Dec 17 1615 | | 52 | 9.3 | 84 | 425 | 7.3 | 23 / 1.15 | 11 / 0.87 | 41 / 1.78 | 2.3 / 0.06 | 0 / 0.00 | 92 / 1.51 | | 68 / 1.92 | | | 0.13 | | | | 46 | 101 | 26 | 2 | median 146 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated .

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Joaquin River near Grayson | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1530 | 815 | 45 | 10.3 | 85 | 825 | 7.7 | 39/1.95 | 17/1.38 | 104/4.52 | 4.6/0.12 | 0/0.00 | 175/2.87 | | 116/3.27 | | | 0.31 | | | | 57 | 166 | 22 | 30 | | [illegible] |
| Feb 8 1145 | 710 | 52 | 9.8 | 88 | 1180 | 7.7 | 53/2.64 | 28/2.28 | 154/6.70 | 3.6/0.09 | 0/0.00 | 200/3.28 | | 174/4.91 | | | 0.45 | | | | 57 | 246 | 82 | 20 | | [illegible] |
| Mar 7 1330 | 525 | 59 | 11.5 | 113 | 1390 | 8.1 | 56/2.79 | 35/2.87 | 176/7.65 | 4.0/0.10 | 0/0.00 | 194/3.18 | | 218/6.15 | | | 0.40 | | | | 57 | 283 | 124 | 7 | | [illegible] |
| Apr 11 1245 | 520 | 64 | 14.5 | 151 | 1060 | 8.4 | 47/2.35 | 23/1.89 | 133/5.78 | 4.4/0.11 | 0/0.00 | 178/2.92 | | 177/4.99 | | | 0.32 | | | | 57 | 212 | 66 | 20 | | [illegible] |
| May 9 1200 | 760 | 69 | 11.0 | 120 | 792 | 8.2 | 39/1.95 | 18/1.45 | 95/4.13 | 3.4/0.09 | 0/0.00 | 158/2.59 | 82/1.71 | 114/3.22 | 2.8/0.05 | 0.4/0.02 | 0.22 | 21 | $PO_4$ 0.40 | 454[b] | 54 | 170 | 40 | 30 | | [illegible] |
| Jun 13 1110 | 605 | 72 | 10.0 | 114 | 1060 | 8.1 | 52/2.59 | 25/2.09 | 135/5.87 | 4.2/0.11 | 0/0.00 | 190/3.11 | | 176/4.96 | | | 0.38 | | | | 55 | 234 | 78 | 9 | | [illegible] |
| Jul 15 0730 | 225 | 74 | 7.3 | 85 | 1200 | 7.7 | 56/2.79 | 32/2.61 | 148/6.44 | 4.2/0.11 | 0/0.00 | 201/3.29 | | 191/5.39 | | | 0.38 | | | | 54 | 270 | 105 | 55 | | [illegible] |
| Aug 15 1130 | 245 | 75 | 10.5 | 123 | 1020 | 7.7 | 41/2.05 | 28/2.29 | 124/5.39 | 3.2/0.08 | 0/0.00 | 191/3.13 | | 159/4.48 | | | 0.41 | | | | 55 | 217 | 60 | 10 | | [illegible] |
| Sep 16 1020 | 285 | 67 | [illegible] | [illegible] | 1130 | 7.7 | 53/2.64 | 27/2.18 | 144/6.26 | 3.4/0.09 | 0/0.00 | 199/3.26 | 121/2.52 | 184/5.19 | 1.2/0.02 | 0.4/0.02 | 0.36 | 24 | Fe 0.07; Al 0.01; Cu 0.01; (a) | 656[b] | 56 | 241 | 78 | 25 | | [illegible] |
| Oct 15 0950 | 285 | 63 | [illegible] | 95 | 1370 | 7.5 | 64/3.09 | 32/2.61 | 174/7.57 | 3.6/0.09 | 0/0.00 | 209/3.43 | | 234/6.60 | | | 0.38 | | | | 57 | 285 | 114 | 15 | | [illegible] |
| Nov 17 1310 | [illegible] | [illegible] | 9.5 | [illegible] | [illegible] | 7.2 | 52/2.59 | 31/2.57 | 165/7.18 | [illegible]/0.10 | 0/0.00 | [illegible]/3.31 | | 222/6.26 | | | 0.35 | | | | 56 | 273 | 107 | 80 | | [illegible] |
| Dec 15 0900 | 340 | 50 | 8.2 | 72 | [illegible] | 7.3 | 54/2.69 | 27/2.18 | 154/6.70 | 3.8/0.10 | 0/0.00 | 184/3.02 | | 191/5.39 | | | 0.30 | | | | 57 | 243 | 92 | 10 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.00/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Joaquin River near Grayson | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1250 | 10,600 | 42 | 8.6 | 74 | 205 | 7.1 | 14 / 0.699 | 4.5 / 0.373 | 20 / 0.870 | 2.3 / 0.059 | 0 / 0.000 | 64 / 1.049 | | 17 / 0.479 | | | 0.13 | | | | 43 | 54 | 2 | 60 | | USGS |
| Feb 9 0930 | 9,580 | 48 | 10.3 | 89 | 244 | 7.3 | 15 / 0.748 | 5.4 / 0.444 | 25 / 1.088 | 1.8 / 0.046 | 0 / 0.000 | 69 / 1.131 | | 25 / 0.705 | | | 0.13 | | | | 47 | 60 | 3 | 35 | | USGS |
| Mar 15 1320 | 2,890 | 53 | 10.3 | 94 | 518 | 7.3 | 25 / 1.248 | 12 / 1.024 | 61 / 2.654 | 2.2 / 0.056 | 0 / 0.000 | 93 / 1.524 | | 78 / 2.200 | | | 0.24 | | | | 53 | 114 | 98 | 50 | | USGS |
| Apr 12 1300 | 1,340 | 58 | 9.5 | 93 | 771 | 7.7 | 36 / 1.80 | 18 / 1.46 | 89 / 3.87 | 2.9 / 0.07 | 0 / 0.000 | 142 / 2.33 | | 120 / 3.38 | | | 0.23 | | | | 54 | 163 | 47 | 35 | | USGS |
| May 10 1145 | 4,120 | 62 | 8.8 | 90 | 220 | 7.3 | 13 / 0.649 | 6.2 / 0.511 | 22 / 0.957 | 1.8 / 0.046 | 0 / 0.000 | 58 / 0.951 | 18 / 0.375 | 28 / 0.790 | 1.0 / 0.016 | 0.3 / 0.016 | 0.06 | 14 | Fe 0.04; Cu 0.01; Zn 0.01; $PO_4$ 0.20; (a) | 133[b] | 44 | 58 | 7.5 | 20 | | USGS |
| June 14 1320 | 4,560 | 68 | 8.5 | 93 | 113 | 6.8 | 8.1 / 0.404 | 2.1 / 0.176 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 39 / 0.639 | | 12 / 0.338 | | | 0.01 | | | | 44 | 29 | 0 | 20 | | USGS |
| July 18 1240 | 860 | 77 | 9.8 | 117 | 850 | 7.5 | 42 / 2.10 | 21 / 1.70 | 103 / 4.48 | 2.8 / 0.07 | 0 / 0.000 | 146 / 2.39 | | 132 / 3.72 | | | 0.32 | | | | 54 | 190 | 70 | 20 | | USGS |
| Aug 15 1310 | 565 | 76 | 9.7 | 114 | 988 | 7.4 | 48 / 2.40 | 23 / 1.93 | 120 / 5.22 | 3.8 / 0.10 | 0 / 0.00 | 175 / 2.87 | | 154 / 4.34 | | | 0.49 | | | | 54 | 216 | 72 | 16 | | USGS |
| Sept 20 0810 | 680 | 68 | 7.9 | 87 | 799 | 7.5 | 41 / 2.05 | 18 / 1.47 | 99 / 4.31 | 3.1 / 0.08 | 0 / 0.00 | 162 / 2.66 | 82 / 1.71 | 122 / 3.44 | 2.9 / 0.05 | 0.1 / 0.01 | 0.23 | 21 | Fe 0.03; Al 0.08; Zn 0.01; $PO_4$ 0.45; (a) | 469[b] | 54 | 176 | 43 | 20 | | USGS |
| Oct 11 0840 | 720 | 65 | 8.7 | 92 | 742 | 7.5 | 35 / 1.75 | 18 / 1.45 | 92 / 4.00 | 2.6 / 0.07 | 0 / 0.00 | 152 / 2.49 | | 118 / 3.33 | | | 0.15 | | | | 55 | 160 | 35 | 10 | | USGS |
| Nov 16 0955 | 488 | 51 | 10.0 | 89 | 1,190 | 7.7 | 54 / 2.69 | 28 / 2.34 | 150 / 6.52 | 3.2 / 0.08 | 0 / 0.00 | 208 / 3.41 | | 192 / 5.41 | | | 0.26 | | | | 56 | 252 | 81 | 5 | | USGS |
| Dec 13 1340 | 438 | 55 | 10.4 | 98 | 1,240 | 7.7 | 55 / 2.74 | 31 / 2.52 | 159 / 6.92 | 3.4 / 0.09 | 0 / 0.00 | 207 / 3.39 | | 198 / 5.58 | | | 0.37 | | | | 56 | 263 | 93 | 7 | median 62 minimum 6.2 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | San Joaquin River at Maze Road Bridge | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1450 | 1,800 | 46 | 9.8 | 82 | 548 | 7.3 | 28 / 1.40 | 11 / 0.92 | 64 / 2.78 | 3.5 / 0.09 | 0 / 0.00 | 110 / 1.80 | | 81 / 2.28 | | | 0.07 | | | | 54 | 116 | 26 | 40 | | [illegible] |
| Feb 11 1430 | 2,075 | 51 | 10.1 | 90 | 562 | 7.3 | 26 / 1.30 | 13 / 1.10 | 64 / 2.78 | 2.2 / 0.06 | 0 / 0.00 | 94 / 1.54 | | 86 / 2.43 | | | 0.17 | | | | 53 | 120 | 43 | 7 | | [illegible] |
| Mar 7 1230 | 1,360 | 56 | 10.7 | 101 | 692 | 7.7 | 33 / 1.65 | 16 / 1.31 | 79 / 3.44 | 3.2 / 0.08 | 0 / 0.00 | 108 / 1.77 | | 112 / 3.16 | | | 0.28 | | | | 53 | 148 | 59 | 6 | | [illegible] |
| Apr 14 1940 | 610 | 65 | 11.1 | 127 | 1060 | 8.3 | 54 / 2.69 | 25 / 2.07 | 124 / 5.39 | 6.0 / 0.15 | 0 / 0.00 | 188 / 3.08 | | 213 / 6.01 | | | 0.29 | | | | 52 | 238 | 84 | 28 | | [illegible] |
| May 17 1210 | 515 | 70 | 12.6 | 141 | 1120 | 8.4 | 59 / 2.94 | 24 / 1.94 | 130 / 5.65 | 6.2 / 0.16 | 0 / 0.00 | 158 / 2.92 | 75 / 1.56 | 216 / 6.09 | 4.5 / 0.07 | 0.3 / [illegible] | 0.27 | 26 | Fe 0.01; Al 0.005; (a) $PO_4$ 0.50 | 629[b] | 53 | 244 | 98 | 15 | | [illegible] |
| Jun 17 0900 | [illegible] | 70 | 9.2 | 102 | 925 | 8.0 | 52 / 2.64 | 21 / 1.76 | 107 / 4.65 | 6.6 / 0.17 | 0 / 0.00 | 169 / 2.77 | | 199 / 5.61 | | | 0.31 | | | | 50 | 220 | 81 | 35 | | [illegible] |
| Jul 15 0900 | 380 | 75 | 7.8 | 91 | 1010 | 7.5 | 54 / 2.69 | 22 / 1.79 | 144 / 4.96 | 6.8 / 0.17 | 0 / 0.00 | 189 / 3.10 | | 198 / 5.58 | | | 0.30 | | | | 52 | 224 | 69 | 110 | | [illegible] |
| Aug 19 1120 | 445 | 76 | 10.5 | 124 | 1020 | 7.8 | 52 / 2.59 | 24 / 1.95 | 114 / 4.96 | 5.0 / 0.13 | 0 / 0.00 | 187 / 3.06 | | 191 / 5.39 | | | 0.38 | | | | 52 | 227 | 74 | 45 | | [illegible] |
| Sep 15 1140 | [illegible] | 69 | 9.0 | 99 | 1040 | 7.7 | 58 / 2.89 | 21 / 1.71 | 116 / 5.04 | 5.8 / 0.15 | 0 / 0.00 | 194 / 3.18 | 48 / 1.00 | 187 / 5.27 | 2.8 / 0.05 | 0.4 / 0.02 | 0.28 | 33 | Fe 0.03; Cu 0.03; (a) | 567[b] | 52 | 230 | 71 | 25 | | [illegible] |
| Oct 13 1040 | 540 | 65 | 9.1 | [illegible] | 1120 | 7.7 | 56 / 2.79 | 25 / 2.06 | 138 / 6.00 | 5.0 / 0.13 | 0 / 0.00 | 185 / 3.03 | | 206 / 5.81 | | | 0.36 | | | | 55 | 243 | 91 | 15 | | [illegible] |
| Nov 17 1150 | 865 | 60 | 7.8 | 67 | 912 | 7.3 | 45 / 2.25 | 22 / 1.83 | 104 / 4.52 | 6.0 / 0.15 | 0 / 0.00 | 148 / 2.43 | | 174 / 4.91 | | | 0.18 | | | | 53 | 194 | 73 | 60 | | [illegible] |
| Dec 15 1040 | 730* | 5[illegible] | 8.0 | 78 | 6[illegible]7 | 7.3 | 35 / 1.75 | 15 / 1.20 | 82 / 3.57 | 3.8 / 0.10 | 0 / 0.00 | 122 / 1.77 | | 134 / 3.50 | | | 0.14 | | | | 54 | 149 | < 60 | 10 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 230 | |
| * Derived from gage reading made by sampler | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | **San Joaquin River at Maze Road Bridge** | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1330 | 18,520 | 48 | 9.0 | 78 | 186 | 7.1 | 12 / 0.599 | 5.4 / 0.441 | 15 / 0.652 | 2.2 / 0.056 | 0 / 0.000 | 56 / 0.918 | | 18 / 0.508 | | | 0.08 | | | | 37 | 52 | 6 | 45 | | USGS |
| Feb 9 1000 | 13,770 | 47 | 10.3 | 87 | 228 | 7.3 | 14 / 0.699 | 5.4 / 0.445 | 22 / 0.957 | 1.8 / 0.046 | 0 / 0.000 | 64 / 1.049 | | 23 / 0.649 | | | 0.12 | | | | 45 | 57 | 5 | 35 | | USGS |
| Mar 15 1405 | No Record | 52 | 10.4 | 94 | 381 | 7.3 | 21 / 1.048 | 8.6 / 0.708 | 40 / 1.740 | 2.0 / 0.051 | 0 / 0.000 | 76 / 1.246 | | 56 / 1.579 | | | 0.15 | | | | 49 | 88 | 26 | 35 | | USGS |
| Apr 12 1340 | No Record | 56 | 9.4 | 89 | 469 | 7.5 | 24 / 1.198 | 11 / 0.902 | 51 / 2.218 | 2.5 / 0.064 | 0 / 0.000 | 92 / 1.508 | | 76 / 2.143 | | | 0.15 | | | | 51 | 105 | 30 | 35 | | USGS |
| May 10 1240 | 11,200 | 59 | 9.3 | 92 | 145 | 7.3 | 10 / 0.499 | 3.2 / 0.261 | 15 / 0.652 | 1.2 / 0.031 | 0 / 0.000 | 4.1 / 0.672 | 7.0 / 0.146 | 19 / 0.536 | 0.6 / 0.010 | 0.6 / 0.032 | 0.09 | 12 | Fe 0.02; Cu 0.01; Zn 0.01; $PO_4$ 0.15 (a) | 89[b] | 45 | 38 | 4 | 12 | | USGS |
| June 14 1120 | 8,030 | 68 | 8.0 | 88 | 153 | 6.8 | 11 / 0.549 | 2.8 / 0.231 | 14 / 0.609 | 1.3 / 0.033 | 0 / 0.000 | 46 / 0.754 | | 20 / 0.564 | | | 0.06 | | | | 43 | 39 | 1 | 30 | | USGS |
| July 18 1340 | 1,960 | 77 | 12.4 | 148 | 850 | 7.3 | 47 / 2.35 | 18 / 1.49 | 98 / 4.26 | 4.0 / 0.10 | 0 / 0.00 | 146 / 2.39 | | 154 / 4.34 | | | 0.26 | | | | 52 | 192 | 72 | 15 | | USGS |
| Aug 15 1520 | 1,440 | 76 | 9.8 | 116 | 709 | 7.1 | 38 / 1.90 | 16 / 1.28 | 79 / 3.44 | 3.8 / 0.10 | 0 / 0.00 | 129 / 2.11 | | 127 / 3.58 | | | 0.11 | | | | 51 | 159 | 53 | 12 | | USGS |
| Sept 20 0845 | 1,705 | 68 | 7.1 | 78 | 546 | 7.3 | 30 / 1.50 | 11 / 0.93 | 64 / 2.78 | 3.0 / 0.08 | 0 / 0.00 | 112 / 1.84 | 36 / 0.75 | 91 / 2.57 | 2.1 / 0.03 | 0.0 / 0.00 | 0.15 | 20 | Fe 0.02; Al 0.06; Zn 0.02; $PO_4$ 0.35; (a) | 312[b] | 53 | 122 | 30 | 8 | | USGS |
| Oct 11 0915 | 1,640 | 66 | 8.3 | 88 | 582 | 7.3 | 30 / 1.50 | 12 / 1.06 | 67 / 2.91 | 3.2 / 0.08 | 0 / 0.00 | 120 / 1.97 | | 103 / 2.90 | | | 0.10 | | | | 52 | 128 | 30 | 7 | | USGS |
| Nov 16 1020 | 1,450 | 53 | 9.5 | 87 | 676 | 7.4 | 34 / 1.70 | 14 / 1.18 | 77 / 3.35 | 1.4 / 0.04 | 0 / 0.00 | 118 / 1.93 | | 117 / 3.30 | | | 0.16 | | | | 53 | 144 | 47 | 4 | | USGS |
| Dec 13 1445 | 1,735 | 54 | 9.7 | 90 | 502 | 7.3 | 24 / 1.20 | 13 / 1.04 | 56 / 2.44 | 1.9 / 0.05 | 0 / 0.00 | 90 / 1.48 | | 84 / 2.37 | | | 0.16 | | | | 52 | 112 | 38 | 5 | median 230 minimum 21 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Joaquin River near Mendota | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0945 | | 42 | 11.8 | 93 | 83.0 | 6.9 | 7.7 / 0.384 | 1.3 / 0.106 | 8.3 / 0.361 | 0.9 / 0.023 | 0 / 0.000 | 39 / 0.639 | | 5.2 / 0.147 | | | 0.17 | | | | 41 | 24 | 0 | 9 | | USGS |
| Feb 9 1120 | | 54 | 9.7 | 90 | 184 | 7.2 | 13 / 0.649 | 4.3 / 0.351 | 18 / 0.783 | 1.6 / 0.041 | 0 / 0.000 | 68 / 1.114 | | 17 / 0.479 | | | 0.02 | | | | 43 | 50 | 0 | 9 | | USGS |
| Mar 10 0940 | | 56 | 10.0 | 95 | 692 | 7.7 | 35 / 1.75 | 17 / 1.37 | 77 / 3.35 | 2.8 / 0.07 | 0 / 0.00 | 100 / 1.64 | | 104 / 2.93 | | | 0.38 | | | | 51 | 156 | 74 | 40 | | USGS |
| Apr 11 1645 | | 63 | 9.8 | 100 | 517 | 7.8 | 30 / 1.50 | 1.5 / 1.22 | 54 / 2.35 | 2.7 / 0.07 | 0 / 0.00 | 100 / 1.64 | | 76 / 2.14 | | | 0.17 | | | | 46 | 136 | 54 | 22 | | USGS |
| May 9 1545 | | 70 | 9.5 | 106 | 537 | 8.0 | 27 / 1.35 | 17 / 1.41 | 59 / 2.57 | 3.2 / 0.08 | 0 / 0.00 | 114 / 1.87 | 52 / 1.08 | 81 / 2.28 | 1.0 / 0.02 | 0.3 / 0.02 | 0.18 | 31 | Mn 0.02; Cr 0.005; $PO_4$ 0.25; (a) | 328[b] | 48 | 138 | 45 | 44 | | USGS |
| Jun 13 1445 | | 76 | 8.8 | 104 | 401 | 7.8 | 23 / 1.148 | 9.0 / 0.740 | 42 / 1.826 | 2.5 / 0.064 | 0 / 0.000 | 82 / 1.344 | | 60 / 1.692 | | | 0.17 | | | | 48 | 94 | 27 | 42 | | USGS |
| Jul 14 1200 | | 80 | 8.0 | 99 | 303 | 7.2 | 19 / 0.948 | 8.7 / 0.712 | 31 / 1.348 | 3.0 / 0.077 | 0 / 0.000 | 76 / 1.246 | | 31 / 0.874 | | | 0.16 | | | | 44 | 83 | 21 | 170 | | USGS |
| Aug 16 1045 | | 79 | 8.2 | 100 | 466 | 7.4 | 21 / 1.048 | 12 / 0.992 | 48 / 2.087 | 2.9 / 0.074 | 0 / 0.000 | 95 / 1.557 | | 73 / 2.059 | | | 0.09 | | | | 50 | 102 | 24 | 55 | | USGS |
| Sep 12 1630 | | 79 | 7.3 | 89 | 595 | 7.7 | 22 / 1.10 | 15 / 1.24 | 70 / 3.04 | 3.4 / 0.09 | 0 / 0.00 | 102 / 1.67 | 40 / 0.83 | 106 / 2.99 | 0.9 / 0.01 | 0.2 / 0.01 | 0.18 | 19 | Fe 0.15; Cu 0.01; (a) | 327[b] | 55 | 117 | 33 | 30 | | USGS |
| Oct 10 1615 | | 68 | 8.1 | 88 | 591 | 7.5 | 26 / 1.30 | 16 / 1.28 | 69 / 3.00 | 3.3 / 0.08 | 0 / 0.00 | 122 / 2.00 | | 96 / 2.71 | | | 0.21 | | | | 53 | 129 | 29 | 6 | | USGS |
| Nov 16 1100 | | 49 | 9.9 | 86 | 899 | 7.7 | 46 / 2.30 | 21 / 1.71 | 99 / 4.31 | 4.4 / 0.11 | 0 / 0.00 | 158 / 2.59 | | 152 / 4.29 | | | 0.38 | | | | 51 | 200 | 70 | 80 | | USGS |
| Dec 12 1400 | | 51 | 10.9 | 97 | 741 | 7.5 | 36 / 1.80 | 18 / 1.51 | 90 / 3.92 | 3.9 / 0.10 | 0 / 0.00 | 142 / 2.33 | | 125 / 3.52 | | | 0.25 | | | | 53 | 166 | 50 | 40 | | USGS |
| Not Rated in 1955 | | | | | | | | | | | | | | | | | | | | | | | | | median 23 minimum 2.1 maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Joaquin River near Mendota | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 9 1505 | | 47 | 10.6 | 90 | 53.5 | 6.9 | 4.6 / 0.230 | 0.7 / 0.060 | 4.0 / 0.174 | 1.2 / 0.031 | 0 / 0.000 | 21 / 0.344 | | 3.0 / 0.085 | | | 0.13 | | | | 35 | 14 | 0 | 45 | | USGS |
| Feb 6 1405 | | 46 | 11.5 | 96 | 53.0 | 7.1 | 5.4 / 0.269 | 0.4 / 0.037 | 4.5 / 0.196 | 1.1 / 0.028 | 0 / 0.000 | 24 / 0.393 | | 1.0 / 0.028 | | | 0.09 | | | | 37 | 15 | 0 | 20 | | USGS |
| Mar 12 1400 | | 53 | 10.8 | 99 | 61.0 | 7.1 | 6.0 / 0.299 | 0.7 / 0.057 | 5.1 / 0.222 | 1.0 / 0.026 | 0 / 0.000 | 29 / 0.475 | | 2.9 / 0.082 | | | 0.03 | | | | 37 | 18 | 0 | 15 | | USGS |
| Apr 9 1400 | | 65 | 9.5 | 100 | 56.0 | 6.9 | 5.2 / 0.259 | 0.6 / 0.051 | 5.4 / 0.235 | 1.0 / 0.026 | 0 / 0.000 | 29 / 0.475 | | 3.0 / 0.085 | | | 0.04 | | | | 41 | 16 | 0 | 9 | | USGS |
| May 9 1155 | | 64 | 9.4 | 98 | 51.9 | 7.1 | 4.8 / 0.240 | 1.5 / 0.120 | 4.8 / 0.209 | 0.9 / 0.023 | 0 / 0.000 | 28 / 0.459 | 1.0 / 0.021 | 3.8 / 0.107 | 0.4 / 0.006 | 0.0 / 0.000 | 0.08 | 12 | Fe 0.05; Zn 0.06; $PO_4$ 0.10; (a) | 43[b] | 35 | 18 | 0 | 5 | | USGS |
| June 13 0900 | | 66 | 10.0 | 106 | 35.4 | 6.8 | 3.6 / 0.180 | 0.5 / 0.040 | 2.7 / 0.117 | 0.7 / 0.018 | 0 / 0.000 | 21 / 0.344 | | 1.4 / 0.039 | | | 0.01 | | | | 33 | 11 | 0 | 9 | | USGS |
| July 16 1420 | | 78 | 9.0 | 108 | 435 | 7.0 | 24 / 1.198 | 10 / 0.854 | 46 / 2.001 | 2.5 / 0.064 | 0 / 0.000 | 88 / 1.442 | | 67 / 1.889 | | | 0.22 | | | | 49 | 103 | 31 | 55 | | USGS |
| Aug 15 1020 | | 75 | 9.1 | 107 | 350 | 7.0 | 21 / 1.048 | 8.3 / 0.680 | 35 / 1.522 | 2.2 / 0.056 | 0 / 0.000 | 80 / 1.311 | | 49 / 1.382 | | | 0.01 | | | | 46 | 86 | 20 | 25 | | USGS |
| Sept 17 1330 | | 75 | 9.6 | 112 | 529 | 7.7 | 29 / 1.45 | 13 / 1.07 | 57 / 2.48 | 2.6 / 0.07 | 0 / 0.00 | 112 / 1.84 | 46 / 0.96 | 84 / 2.37 | 1.3 / 0.02 | 0.2 / 0.01 | 0.20 | 16 | Fe 0.04; Al 0.07; Cu 0.01; Zn 0.02; $PO_4$ 0.30; (a) | 304[b] | 49 | 126 | 34 | 20 | | USGS |
| Oct 8 1415 | | 73 | 9.1 | 104 | 62.6 | 7.1 | 4.8 / 0.240 | 1.0 / 0.086 | 6.0 / 0.261 | 1.1 / 0.028 | 0 / 0.000 | 24 / 0.393 | | 4.5 / 0.127 | | | 0.00 | | | | 42 | 16 | 0 | 10 | | USGS |
| Nov 13 1335 | | 62 | 11.5 | 117 | 85.7 | 7.3 | 6.2 / 0.31 | 1.7 / 0.14 | 7.8 / 0.34 | 1.0 / 0.03 | 0 / 0.00 | 33 / 0.54 | | 8.8 / 0.25 | | | 0.00 | | | | 41 | 23 | 0 | 5 | | USGS |
| Dec 10 1235 | | 51 | 11.4 | 102 | 314 | 7.3 | 21 / 1.05 | 8.6 / 0.71 | 29 / 1.26 | 2.4 / 0.06 | 0 / 0.00 | 105 / 1.72 | | 37 / 1.04 | | | 0.12 | | | | 41 | 88 | 2 | 3 | median 23 | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| Not Rated in 1956 | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | | | | | San Joaquin River at Mossdale Bridge | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 1350 | | 46 | 10.2 | 85 | 377 | 7.1 | 22 / 1.098 | 7.7 / 0.632 | 40 / 1.739 | 4.2 / 0.107 | 0 / 0.000 | 89 / 1.459 | | 50 / 1.410 | | | 0.28 | | | | 49 | 86 | 13 | 70 | | USGS |
| Feb 21 1010 | | 49 | 11.0 | 96 | 501 | 7.4 | 28 / 1.397 | 12 / 0.963 | 54 / 2.348 | 2.2 / 0.056 | 0 / 0.000 | 91 / 1.491 | | 71 / 2.002 | | | 0.19 | | | | 49 | 118 | 43 | 5 | | USGS |
| Mar 15 1420 | | 57 | 10.0 | 98 | 629 | 7.7 | 22 / 1.10 | 21 / 1.72 | 70 / 3.04 | 2.5 / 0.06 | 0 / 0.00 | 104 / 1.70 | | 106 / 2.99 | | | 0.10 | | | | 51 | 141 | 56 | 7 | | USGS |
| Apr. 15 1140 | | 62 | 16.6 | 168 | 954 | 8.4 | 53 / 2.64 | 21 / 1.74 | 109 / 4.74 | 5.8 / 0.15 | 0 / 0.00 | 176 / 2.88 | | 180 / 5.08 | | | 0.22 | | | | 51 | 219 | 75 | 15 | | USGS |
| May 17 0750 | | 67 | 12.0 | 130 | 960 | 8.4 | 54 / 2.69 | 20 / 1.67 | 107 / 4.65 | 5.6 / 0.14 | 0 / 0.00 | 170 / 2.79 | 60 / 1.25 | 178 / 5.02 | 0.6 / 0.01 | 0.2 / 0.01 | 0.22 | 24 | Al 0.05; Zn 0.02; (a) $PO_4$ 0.25 | 534[b] | 51 | 218 | 79 | 5 | | USGS |
| Jun 21 0810 | | 70 | 11.4 | 127 | 692 | 8.4 | 38 / 1.90 | 17 / 1.38 | 72 / 3.13 | 3.6 / 0.09 | 0 / 0.00 | 139 / 2.28 | | 121 / 3.41 | | | 0.15 | | | | 48 | 164 | 50 | 20 | | USGS |
| Jul 18 1515 | | 76 | 8.0 | 94 | 1000 | 8.0 | 22 / 1.10 | 44 / 3.62 | 106 / 4.61 | 6.0 / 0.15 | 0 / 0.00 | 178 / 2.92 | | 196 / 5.53 | | | 0.37 | | | | 49 | 236 | 90 | 45 | | USGS |
| Aug 22 1430 | | 78 | 8.3 | 100 | 959 | 7.8 | 51 / 2.54 | 23 / 1.88 | 104 / 4.52 | 5.0 / 0.13 | 0 / 0.00 | 190 / 3.11 | | 175 / 4.94 | | | 0.35 | | | | 50 | 221 | 65 | 15 | | USGS |
| Sep 21 1610 | | 72 | 13.8 | 156 | 912 | 8.1 | 56 / 2.79 | 16 / 1.30 | 102 / 4.44 | 4.2 / 0.11 | 0 / 0.00 | 181 / 2.97 | 59 / 1.23 | 159 / 4.48 | 1.1 / 0.02 | 0.3 / 0.02 | 0.26 | 28 | Fe 0.01; Al 0.02; Cu 0.02; (a) | 515[b] | 51 | 205 | 57 | 15 | | USGS |
| Oct 19 1015 | | 63 | 10.6 | 109 | 827 | 7.9 | 45 / 2.25 | 18 / 1.46 | 92 / 4.00 | 4.0 / 0.10 | 0 / 0.00 | 160 / 2.62 | | 141 / 3.98 | | | 0.24 | | | | 51 | 186 | 55 | 10 | | USGS |
| Nov 22 1135 | | 52 | 9.6 | 87 | 696 | 7.5 | 37 / 1.85 | 15 / 1.21 | 79 / 3.44 | 3.5 / 0.09 | 0 / 0.00 | 123 / 2.02 | | 120 / 3.38 | | | 0.14 | | | | 52 | 153 | 52 | 55 | | USGS |
| Dec 20 1430 | | 54 | 9.4 | 87 | 497 | 7.3 | 26 / 1.297 | 11 / 0.903 | 53 / 2.306 | 2.7 / 0.069 | 0 / 0.000 | 89 / 1.459 | | 84 / 2.369 | | | 0.14 | | | | 50 | 110 | 37 | 9 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 42 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **San Joaquin River at Mossdale Bridge** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1500 | | 48 | 9.6 | 82 | 145 | 7.1 | 10 / 0.499 | 4.5 / 0.369 | 10 / 0.435 | 2.0 / 0.051 | 0 / 0.000 | 51 / 0.836 | | 9.3 / 0.262 | | | 0.03 | | | | 32 | 43 | 1 | 70 | | USGS |
| Feb 15 1500 | | 48 | 9.8 | 84 | 235 | 7.3 | 14 / 0.699 | 6.2 / 0.509 | 22 / 0.957 | 1.6 / 0.041 | 0 / 0.000 | 67 / 1.098 | | 27 / 0.761 | | | 0.09 | | | | 43 | 60 | 5 | 25 | | USGS |
| Mar 20 1310 | | 56 | 9.6 | 92 | 430 | 7.3 | 24 / 1.198 | 11 / 0.922 | 40 / 1.740 | 2.1 / 0.054 | 0 / 0.000 | 91 / 1.491 | | 62 / 1.748 | | | 0.26 | | | | 44 | 106 | 31 | 55 | | USGS |
| Apr 17 1500 | | 58 | 10.0 | 97 | 214 | 7.5 | 13 / 0.649 | 5.8 / 0.475 | 21 / 0.914 | 1.5 / 0.038 | 0 / 0.000 | 62 / 1.016 | | 26 / 0.733 | | | 0.09 | | | | 44 | 56 | 5 | 20 | | USGS |
| May 15 1430 | | 62 | 9.1 | 93 | 143 | 7.3 | 12 / 0.599 | 2.2 / 0.181 | 13 / 0.566 | 1.3 / 0.033 | 0 / 0.000 | 48 / 0.787 | 10 / 0.208 | 14 / 0.395 | 0.7 / 0.011 | 0.3 / 0.016 | 0.09 | 15 | Fe 0.07; Al 0.04; Cu 0.01; Zn 0.01; $PO_4$ 0.20; (a) | 93[b] | 41 | 39 | 0 | 20 | | USGS |
| June 15 0815 | | 66 | 8.3 | 88 | 135 | 6.8 | 10 / 0.499 | 5.1 / 0.421 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 45 / 0.738 | | 17 / 0.479 | | | 0.09 | | | | 35 | 46 | 9 | 95 | | USGS |
| July 25 1115 | | 81 | 12.0 | 149 | 866 | 7.9 | 47 / 2.35 | 22 / 1.77 | 94 / 4.09 | 4.4 / 0.11 | 0 / 0.00 | 159 / 2.61 | | 158 / 4.46 | | | 0.28 | | | | 49 | 206 | 76 | 5 | | USGS |
| Aug 21 1340 | | 74 | 10.6 | 123 | 647 | 7.9 | 39 / 1.95 | 13 / 1.06 | 71 / 3.09 | 3.5 / 0.09 | 0 / 0.00 | 139 / 2.28 | | 108 / 3.05 | | | 0.12 | | | | 50 | 150 | 36 | 10 | | USGS |
| Sept 14 0845 | | 70 | 9.5 | 108 | 572 | 7.3 | 32 / 1.60 | 13 / 1.04 | 64 / 2.78 | 3.0 / 0.08 | 0 / 0.00 | 128 / 2.10 | 34 / 0.71 | 92 / 2.59 | 2.1 / 0.03 | 0.1 / 0.01 | 0.19 | 24 | Fe 0.01; Cu 0.01; $PO_4$ 0.35; Al 0.05; (a) | 327[b] | 51 | 132 | 27 | 15 | | USGS |
| Oct 17 1430 | | 64 | 9.6 | 100 | 522 | 7.2 | 30 / 1.497 | 11 / 0.927 | 54 / 2.349 | 2.7 / 0.069 | 0 / 0.000 | 125 / 2.049 | | 82 / 2.312 | | | 0.11 | | | | 49 | 121 | 19 | 6 | | USGS |
| Nov 20 1500 | | 49 | 10.9 | 95 | 535 | 7.5 | 28 / 1.40 | 13 / 1.09 | 56 / 2.44 | 2.6 / 0.07 | 0 / 0.00 | 107 / 1.75 | | 89 / 2.51 | | | 0.12 | | | | 49 | 125 | 37 | 5 | | USGS |
| Dec 18 1615 | | 52 | 10.4 | 94 | 502 | 7.3 | 25 / 1.25 | 13 / 1.11 | 50 / 2.18 | 2.3 / 0.06 | 0 / 0.00 | 96 / 1.57 | | 83 / 2.34 | | | 0.13 | | | | 47 | 118 | 39 | 1.0 | median 62 minimum 6.2 maximum 1300 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **San Joaquin River near Vernalis** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1415 | 2,670 | 45 | 10.1 | 84 | 435 | 7.1 | 24 / 1.198 | 10 / 0.842 | 45 / 1.957 | 3.2 / 0.082 | 0 / 0.000 | 103 / 1.688 | 32 / 0.666 | 60 / 1.692 | 3.5 / 0.056 | 0.4 / 0.021 | 0.01 | 22 | Fe 0.10 | 251[b] | 48 | 102 | 18 | 45 | | USGS |
| Feb 11 1500 | 2,540 | 51 | 10.0 | 90 | 521 | 7.4 | 26 / 1.30 | 13 / 1.10 | 59 / 2.57 | 2.5 / 0.06 | 0 / 0.00 | 97 / 1.59 | 51 / 1.06 | 78 / 2.20 | 2.0 / 0.03 | 0.1 / 0.01 | 0.16 | 17 | Fe 0.02 | 297[b] | 51 | 120 | 40 | 5 | | USGS |
| Mar 15 1530 | 1,980 | 56 | 10.1 | 96 | 540 | 7.7 | 28 / 1.40 | 13 / 1.04 | 58 / 2.52 | 2.3 / 0.06 | 0 / 0.00 | 95 / 1.56 | 47 / 0.98 | 87 / 2.45 | 1.4 / 0.02 | 0.2 / 0.01 | 0.17 | 20 | Fe 0.03 | 304[b] | 50 | 122 | 44 | 7 | | USGS |
| Apr 15 0900 | 620 | 60 | 11.6 | 116 | 912 | 8.2 | 49 / 2.45 | 24 / 1.95 | 99 / 4.30 | 5.6 / 0.14 | 0 / 0.00 | 166 / 2.72 | 54 / 1.12 | 168 / 4.72 | 3.9 / 0.06 | 0.2 / 0.01 | 0.25 | 28 | Fe 0.03 | 514[b] | 49 | 220 | 84 | | | USGS |
| May 17 1110 | 625 | 70 | 12.1 | 135 | 960 | 8.4 | 52 / 2.59 | 21 / 1.73 | 104 / 4.52 | 4.6 / 0.12 | 0 / 0.00 | 168 / 2.75 | 60 / 1.25 | 178 / 5.02 | 3.9 / 0.06 | 0.3 / 0.02 | 0.21 | 24 | (a) $PO_4$ 0.35 | 531[b] | 50 | 216 | 78 | 10 | | USGS |
| Jun 17 0850 | 1,010 | 68 | 9.5 | 104 | 491 | 8.0 | 25 / 1.248 | 11 / 0.912 | 42 / 1.826 | 2.9 / 0.074 | 0 / 0.000 | 94 / 1.541 | 23 / 0.479 | 73 / 2.059 | 1.3 / 0.026 | 0.1 / 0.005 | 0.08 | 22 | Fe 0.03 | 246[b] | 45 | 108 | 31 | 15 | | USGS |
| Jul 15 0845 | 340 | 76 | 10.1 | 119 | 907 | 8.0 | 53 / 2.64 | 21 / 1.72 | 99 / 4.30 | 5.0 / 0.13 | 0 / 0.00 | 178 / 2.92 | 52 / 1.08 | 164 / 4.63 | 0.8 / 0.01 | 0.4 / 0.02 | 0.27 | 28 | Fe 0.05 | 512[b] | 49 | 218 | 72 | 9 | | USGS |
| Aug 19 1030 | 463 | 76 | 12.0 | 142 | 970 | 7.8 | 51 / 2.54 | 23 / 1.86 | 106 / 4.61 | 4.0 / 0.10 | 0 / 0.00 | 184 / 3.02 | 61 / 1.27 | 174 / 4.91 | 3.3 / 0.05 | 0.2 / 0.01 | 0.32 | 29 | | 543[b] | 51 | 220 | 69 | 3 | | USGS |
| Sep 16 1145 | 570 | 68 | 10.2 | 111 | 930 | 7.9 | 49 / 2.45 | 22 / 1.79 | 104 / 4.52 | 5.0 / 0.13 | 0 / 0.00 | 185 / 3.03 | 61 / 1.27 | 162 / 4.57 | 4.2 / 0.07 | 0.2 / 0.01 | 0.24 | 32 | Fe 0.01; Al 0.02; Cu 0.01; Pb 0.01; $PO_4$ 0.30; (a) | 531[b] | 51 | 212 | 60 | 15 | | USGS |
| Oct 13 1200 | 718 | 67 | 10.8 | 116 | 946 | 7.7 | 14 / 0.70 | 43 / 3.56 | 107 / 4.65 | 5.4 / 0.14 | 0 / 0.00 | 181 / 2.97 | 63 / 1.31 | 164 / 4.62 | 4.6 / 0.07 | 0.3 / 0.02 | 0.18 | 36 | Fe 0.01 | 526[b] | 51 | 213 | 65 | 7 | | USGS |
| Nov 17 1430 | 1,090 | 51 | 8.8 | 79 | 882 | 7.3 | 44 / 2.20 | 18 / 1.50 | 92 / 4.00 | 5.6 / 0.14 | 0 / 0.00 | 149 / 2.44 | 52 / 1.08 | 154 / 4.34 | 2.5 / 0.04 | 0.3 / 0.02 | 0.16 | 41 | | 483[b] | 51 | 185 | 63 | 4 | | USGS |
| Dec 15 1015 | 1,660 | 50 | 8.2 | 72 | 516 | 7.3 | 28 / 1.397 | 12 / 0.983 | 57 / 2.480 | 3.0 / 0.077 | 0 / 0.000 | 97 / 1.590 | 39 / 0.812 | 85 / 2.397 | 2.8 / 0.045 | 0.3 / 0.016 | 0.17 | 23 | Fe 0.02 | 298[b] | 50 | 119 | 39 | 30 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 170 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) ppm / equivalents per million | Magnesium (Mg) ppm / equivalents per million | Sodium (Na) ppm / equivalents per million | Potassium (K) ppm / equivalents per million | Carbonate ($CO_3$) ppm / equivalents per million | Bicarbonate ($HCO_3$) ppm / equivalents per million | Sulfate ($SO_4$) ppm / equivalents per million | Chloride (Cl) ppm / equivalents per million | Nitrate ($NO_3$) ppm / equivalents per million | Fluoride (F) ppm / equivalents per million | Boron (B) ppm | Silica ($SiO_2$) ppm | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | San Joaquin River near Vernalis | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1440 | 21,200 | 47 | 9.4 | 80 | 151 | 7.1 | 10 / 0.499 | 4.4 / 0.361 | 12 / 0.522 | 2.0 / 0.051 | 0 / 0.000 | 50 / 0.820 | 12 / 0.250 | 13 / 0.367 | 1.7 / 0.027 | 0.4 / 0.021 | 0.16 | 15 | | 96[b] | 36 | 43 | 2 | 50 | | USGS |
| Feb 9 1100 | 16,400 MD | 47 | 10.3 | 87 | 221 | 7.3 | 14 / 0.699 | 5.1 / 0.421 | 19 / 0.826 | 1.7 / 0.043 | 0 / 0.000 | 66 / 1.082 | 17 / 0.354 | 21 / 0.592 | 1.1 / 0.018 | 0.2 / 0.011 | 0.10 | 17 | | 129[b] | 42 | 56 | 2 | 35 | | USGS |
| Mar 15 1500 | 7,660 MD | 52 | 10.7 | 97 | 225 | 7.3 | 20 / 0.998 | 6.8 / 0.562 | 28 / 1.218 | 2.1 / 0.054 | 0 / 0.000 | 74 / 1.213 | 21 / 0.437 | 44 / 1.241 | 1.2 / 0.019 | 0.2 / 0.011 | 0.20 | 17 | | 176[b] | 43 | 78 | 17 | 32 | | USGS |
| Apr 12 1425 | 5,840 MD | 55 | 9.9 | 93 | 290 | 7.3 | 16 / 0.798 | 7.4 / 0.610 | 30 / 1.305 | 1.8 / 0.046 | 0 / 0.000 | 69 / 1.131 | 20 / 0.416 | 42 / 1.184 | 1.1 / 0.018 | 0.3 / 0.016 | 0.03 | 16 | | 169[b] | 47 | 70 | 13 | 30 | | USGS |
| May 10 1330 | 15,800 MD | 58 | 9.5 | 93 | 120 | 7.5 | 8.8 / 0.439 | 3.4 / 0.281 | 11 / 0.478 | 1.1 / 0.028 | 0 / 0.000 | 42 / 0.688 | 6.0 / 0.125 | 14 / 0.395 | 0.8 / 0.013 | 0.4 / 0.021 | 0.05 | 12 | Fe 0.02; Cu 0.01; (a) $PO_4$ 0.15 | 79[b] | 39 | 36 | 2 | 20 | | USGS |
| June 1100 | 11,700 MD | 66 | 8.8 | 94 | 104 | 6.8 | 8.4 / 0.419 | 2.3 / 0.189 | 8.7 / 0.378 | 1.2 / 0.031 | 0 / 0.000 | 41 / 0.672 | 4.2 / 0.087 | 9.5 / 0.268 | 0.9 / 0.015 | 0.2 / 0.011 | 0.00 | 15 | Fe 0.06; (a) | 70[b] | 37 | 30 | 0 | 30 | | USGS |
| July 16 1115 | 2,550 MD | 74 | 11.8 | 137 | 555 | 7.4 | 32 / 1.60 | 13 / 1.10 | 59 / 2.57 | 3.0 / 0.08 | 0 / 0.00 | 122 / 2.00 | 38 / 0.79 | 93 / 2.62 | 1.9 / 0.03 | 0.3 / 0.02 | 0.14 | 23 | | 323[b] | 48 | 135 | 35 | 6 | | USGS |
| Aug 15 1430 | 1,560 MD | 76 | 11.3 | 133 | 659 | 7.4 | 38 / 1.90 | 15 / 1.20 | 73 / 3.18 | 3.5 / 0.09 | 0 / 0.00 | 135 / 2.21 | 40 / 0.83 | 115 / 3.24 | 2.6 / 0.04 | 0.2 / 0.01 | 0.20 | 24 | | 378[b] | 50 | 155 | 44 | 20 | | USGS |
| Sept 20 0925 | 2,060 MD | 69 | 8.4 | 93 | 515 | 7.5 | 30 / 1.497 | 11 / 0.943 | 57 / 2.480 | 3.0 / 0.077 | 0 / 0.000 | 119 / 1.950 | 32 / 0.666 | 81 / 2.284 | 2.7 / 0.044 | 0.0 / 0.000 | 0.13 | 23 | Fe 0.02; Al 0.03; Cu 0.01; $PO_4$ 0.35; (a) | 299[b] | 50 | 122 | 24 | 8 | | USGS |
| Oct 11 0945 | 1,960 MD | 66 | 8.3 | 89 | 581 | 7.3 | 32 / 1.60 | 13 / 1.08 | 63 / 2.74 | 2.3 / 0.08 | 0 / 0.00 | 130 / 2.13 | 31 / 0.65 | 97 / 2.74 | 2.6 / 0.04 | 0.1 / 0.01 | 0.20 | 31 | | 337[b] | 50 | 134 | 27 | | | USGS |
| Nov 16 1115 | 2,050 | 52 | 10.0 | 90 | 529 | 7.5 | 28 / 1.40 | 12 / 1.00 | 59 / 2.57 | 2.5 / 0.06 | 0 / 0.00 | 111 / 1.82 | 39 / 0.81 | 86 / 2.43 | 2.4 / 0.04 | 0.1 / 0.01 | 0.22 | 24 | Fe 0.03; (a) | 308[b] | 51 | 120 | 29 | 9 | | USGS |
| Dec 13 1520 | 2,300 | 55 | 10.1 | 95 | 450 | 7.5 | 23 / 1.15 | 12 / 1.01 | 48 / 2.09 | 1.8 / 0.05 | 0 / 0.00 | 94 / 1.54 | 34 / 0.71 | 69 / 1.95 | 2.6 / 0.04 | 0.1 / 0.01 | 0.06 | 19 | Fe 0.04; (a) | 256[b] | 49 | 108 | 31 | 5 | median 230 minimum 6.2 maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER
REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | Stanislaus River near Knights Ferry | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| July 19 1240 | Not Rated | 62 | 9.8 | 100 | 37.1 | 7.0 | 5.3 / 0.264 | 0.5 / 0.038 | 1.4 / 0.061 | 0.7 / 0.018 | 0 / 0.000 | 25 / 0.410 | | 0.1 / 0.003 | | | 0.03 | | | [illegible] | 16 | 15 | 0 | 4 | | USGS |
| Aug 16 1230 | " | 66 | 9.4 | 101 | 45.7 | 6.8 | 6.0 / 0.299 | 1.0 / 0.081 | 1.6 / 0.070 | 1.0 / 0.026 | 0 / 0.000 | 30 / 0.492 | | 0.0 / 0.000 | | | 0.00 | | | [illegible] | 15 | 19 | 0 | 8 | | USGS |
| Sept 20 1240 | " | 69 | 8.5 | 94 | 69.8 | 7.1 | 8.8 / 0.439 | 2.7 / 0.221 | 2.1 / 0.091 | 1.0 / 0.026 | 0 / 0.000 | 43 / 0.705 | 2.3 / 0.048 | 0.4 / 0.011 | 0.4 / 0.006 | 0.0 / 0.000 | 0.05 | 11 | Fe 0.06; Al 0.02; Cu 0.01; $PO_4$ 0.00; (a) | 50[b] | 12 | 33 | 0 | 1 | | USGS |
| Oct 10 1450 | " | 64 | 9.3 | 97 | 80.5 | 7.3 | 9.9 / 0.49 | 2.7 / 0.22 | 2.3 / 0.10 | 1.3 / 0.03 | 0 / 0.00 | 43 / 0.79 | | 0.2 / 0.01 | | | 0.13 | | | [illegible] | 12 | 36 | 0 | 7 | | USGS |
| Nov 15 1550 | " | 50 | 11.4 | 101 | 69.7 | 7.3 | 8.2 / 0.41 | 2.1 / 0.17 | 2.1 / 0.09 | 1.0 / 0.03 | 0 / 0.00 | 42 / 0.69 | | 1.1 / 0.03 | | | 0.01 | | | [illegible] | 13 | 29 | 0 | 3 | | USGS |
| Dec 13 0920 | " | 43 | 12.3 | 99 | 97.7 | 7.3 | 11 / 0.55 | 3.5 / 0.29 | 3.1 / 0.13 | 1.1 / 0.03 | 0 / 0.00 | 55 / 0.90 | | 1.0 / 0.03 | | | 0.03 | | | [illegible] | 13 | 42 | 0 | 7 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 5.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Stanislaus River near mouth | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1340 | 684 | 43 | 11.2 | 90 | 170 | 6.9 | 17 / 0.848 | 6.6 / 0.542 | 6.6 / 0.287 | 1.7 / 0.043 | 0 / 0.000 | 75 / 1.229 | | 4.2 / 0.118 | | | 0.02 | | | | 17 | 70 | 8 | 30 | | USGS |
| Feb 21 1200 | 980 | 51 | 11.2 | 100 | 118 | 7.3 | 12 / 0.599 | 4.6 / 0.381 | 4.6 / 0.200 | 1.1 / 0.028 | 0 / 0.000 | 59 / 0.967 | | 2.0 / 0.056 | | | 0.05 | | | | 17 | 49 | 1 | 4 | | USGS |
| Mar 15 1630 | 1,040 | 56 | 9.9 | 94 | 112 | 7.4 | 11 / 0.549 | 4.0 / 0.331 | 4.4 / 0.191 | 1.1 / 0.028 | 0 / 0.000 | 54 / 0.885 | | 2.0 / 0.056 | | | 0.00 | | | | 17 | 44 | 0 | 8 | | USGS |
| Apr 15 0940 | 97 | 61 | 10.0 | 100 | 262 | 7.6 | 22 / 1.098 | 11 / 0.934 | 15 / 0.652 | 2.5 / 0.064 | 0 / 0.000 | 144 / 2.360 | | 8.1 / 0.228 | | | 0.04 | | | | 24 | 102 | 0 | 3 | | USGS |
| May 18 1140 | 108 | 74 | 10.0 | 116 | 217 | 7.8 | 25 / 1.248 | 8.9 / 0.732 | 14 / 0.609 | 2.5 / 0.064 | 0 / 0.000 | 133 / 2.180 | 9.2 / 0.192 | 9.5 / 0.268 | 1.6 / 0.026 | 0.0 / 0.000 | 0.00 | 31 | Mn 0.03; (a) $PO_4$ 0.20 | 168[b] | 23 | 99 | 0 | 7 | | USGS |
| Jun 17 0920 | 694 | 67 | 8.4 | 91 | 94.6 | 7.2 | 9.3 / 0.464 | 3.8 / 0.316 | 4.2 / 0.183 | 1.1 / 0.028 | 0 / 0.000 | 54 / 0.885 | | 1.5 / 0.042 | | | 0.06 | | | | 18 | 39 | 0 | 8 | | USGS |
| Jul 15 0930 | 45 | 75 | 9.2 | 108 | 271 | 7.3 | 26 / 1.297 | 10 / 0.823 | 17 / 0.739 | 2.8 / 0.072 | 0 / 0.000 | 144 / 2.360 | | 9.2 / 0.259 | | | 0.01 | | | | 25 | 106 | 0 | 7 | | USGS |
| Aug 19 0945 | 44 | 73 | 8.2 | 94 | 281 | 7.4 | 26 / 1.297 | 10 / 0.823 | 16 / 0.696 | 2.3 / 0.059 | 0 / 0.000 | 153 / 2.507 | | 7.5 / 0.212 | | | 0.00 | | | | 24 | 106 | 0 | 5 | | USGS |
| Sep 16 1300 | 76 | 71 | 8.4 | 94 | 272 | 7.5 | 25 / 1.248 | 10 / 0.832 | 16 / 0.696 | 2.3 / 0.059 | 0 / 0.000 | 149 / 2.442 | 9.0 / 0.187 | 8.2 / 0.231 | 1.6 / 0.026 | 0.1 / 0.005 | 0.03 | 36 | Fe 0.03; Pb 0.01; | 181[b] | 25 | 104 | 0 | 2 | | USGS |
| Oct 13 1310 | 116 | 62 | 8.3 | 90 | 283 | 7.3 | 25 / 1.248 | 12 / 0.968 | 16 / 0.696 | 2.7 / 0.069 | 0 / 0.000 | 155 / 2.540 | | 8.0 / 0.226 | | | 0.00 | | | | 23 | 111 | 0 | 7 | | USGS |
| Nov 17 1530 | 171 | 50 | 9.2 | 81 | 255 | 7.3 | 23 / 1.148 | 9.8 / 0.804 | 14 / 0.609 | 3.0 / 0.077 | 0 / 0.000 | 134 / 2.196 | | 8.0 / 0.226 | | | 0.00 | | | | 23 | 98 | 0 | 50 | | USGS |
| Dec 15 1115 | 502 | 49 | 9.9 | 86 | 169 | 7.3 | 18 / 0.898 | 5.9 / 0.482 | 8.1 / 0.352 | 1.9 / 0.049 | 0 / 0.000 | 84 / 1.377 | | 4.8 / 0.135 | | | 0.00 | | | | 20 | 69 | 0 | 15 | median 23 minimum 2.3 maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Stanislaus River near Mouth | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar 15 1600 | backwater | 52 | 10.9 | 99 | 117 | 7.3 | 11 / 0.549 | 4.6 / 0.375 | 5.0 / 0.218 | 1.1 / 0.028 | 0 / 0.000 | 62 / 1.016 | | 1.8 / 0.051 | | | 0.04 | | | | 19 | 46 | 0 | 30 | | USGS |
| Apr 12 1550 | backwater | 51 | 10.7 | 96 | 63.4 | 7.1 | 6.4 / 0.319 | 2.4 / 0.201 | 3.1 / 0.135 | 1.1 / 0.028 | 0 / 0.000 | 40 / 0.656 | | 0.8 / 0.023 | | | 0.09 | | | | 20 | 26 | 0 | 55 | | USGS |
| May 10 1430 | backwater | 54 | 10.1 | 93 | 54.7 | 7.7 | 6.01 / 0.299 | 2.0 / 0.161 | 2.3 / 0.100 | 0.9 / 0.023 | 0 / 0.000 | 33 / 0.541 | 0.0 / 0.000 | 0.8 / 0.023 | 0.4 / 0.006 | 0.0 / 0.000 | 0.01 | 12 | Fe 0.04; Cu 0.01; Zn 0.01; $PO_4$ 0.10; (a) | 40[b] | 17 | 23 | 0 | 30 | | USGS |
| June 14 1215 | backwater | 64 | 9.0 | 94 | 52.5 | 6.8 | 6.8 / 0.339 | 1.2 / 0.101 | 2.0 / 0.087 | 0.9 / 0.023 | 0 / 0.000 | 33 / 0.541 | | 0.0 / 0.000 | | | 0.10 | | | | 16 | 22 | 0 | 25 | | USGS |
| July 16 1040 | 900 | 70 | 8.4 | 93 | 134 | 7.1 | 16 / 0.798 | 3.2 / 0.262 | 6.9 / 0.300 | 1.4 / 0.036 | 0 / 0.000 | 73 / 1.196 | | 2.1 / 0.059 | | | 0.08 | | | | 21 | 53 | 0 | 10 | | USGS |
| Aug 15 1400 | 157 | 75 | 11.5 | 134 | 310 | 7.2 | 30 / 1.497 | 12 / 0.963 | 18 / 0.783 | 2.6 / 0.067 | 0 / 0.000 | 165 / 2.704 | | 9.0 / 0.254 | | | 0.00 | | | | 24 | 123 | 0 | 3 | | USGS |
| Sept 21 1000 | 229 | 69 | 8.4 | 92 | 239 | 7.5 | 24 / 1.198 | 8.1 / 0.666 | 15 / 0.652 | 2.6 / 0.067 | 0 / 0.000 | 131 / 2.147 | 8.6 / 0.179 | 7.4 / 0.209 | 2.2 / 0.035 | 0.2 / 0.011 | 0.03 | 31 | Fe 0.01; Al 0.03; Cu 0.01; PO 0.25; (a) | 164[b] | 25 | 93 | 0 | 2 | | USGS |
| Oct 11 1010 | 249 | 65 | 8.4 | 89 | 267 | 7.3 | 26 / 1.30 | 8.9 / 0.73 | 16 / 0.70 | 3.1 / 0.08 | 0 / 0.00 | 149 / 2.44 | | 8.0 / 0.23 | | | 0.08 | | | | 25 | 102 | 0 | 3 | | USGS |
| Nov 16 1145 | 530 | 51 | 10.5 | 94 | 139 | 7.4 | 14 / 0.70 | 5.1 / 0.42 | 6.9 / 0.30 | 1.4 / 0.04 | 0 / 0.00 | 76 / 1.25 | | 3.6 / 0.10 | | | 0.00 | | | | 21 | 56 | 0 | 20 | | USGS |
| Dec 13 1645 | 375 | 53 | 10.9 | 100 | 191 | 7.4 | 18 / 0.90 | 8.0 / 0.66 | 10 / 0.44 | 1.8 / 0.05 | 0 / 0.00 | 101 / 1.66 | | 4.5 / 0.13 | | | 0.12 | | | | 21 | 78 | 0 | 9 | median 62 minimum 2.3 maximum 620 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | Tidal Area | | | | | | Stockton Ship Channel on Rindge Island | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 0900 | | 43 | 10.0 | 79 | 316 | 6.9 | 20 / 0.998 | 9.0 / 0.742 | 27 / 1.174 | 3.1 / 0.079 | 0 / 0.000 | 77 / 1.262 | 26 / 0.541 | 38 / 1.072 | 4.8 / 0.077 | 0.4 / 0.021 | 0.00 | 20 | Fe 0.37 | 186[b] | 39 | 87 | 24 | 80 | | USGS |
| Feb 15 1630 | | 52 | 7.3 | 66 | 609 | 7.2 | 34 / 1.70 | 15 / 1.22 | 66 / 2.87 | 3.1 / 0.08 | 0 / 0.00 | 124 / 2.03 | 53 / 1.10 | 90 / 2.54 | 3.4 / 0.05 | 0.2 / 0.01 | 0.17 | 21 | Fe 0.02 | 347[b] | 49 | 146 | 44 | 7 | | USGS |
| Mar 17 1300 | | 57 | 8.5 | 82 | 619 | 7.3 | 33 / 1.65 | 15 / 1.23 | 66 / 2.87 | 3.0 / 0.08 | 0 / 0.00 | 106 / 1.74 | 61 / 1.27 | 97 / 2.74 | 3.1 / 0.05 | 0.2 / 0.01 | 0.27 | 19 | Fe 0.04 | 349[b] | 49 | 144 | 57 | 10 | | USGS |
| Apr 21 1250 | | 59 | 10.7 | 105 | 553 | 8.1 | 31 / 1.55 | 14 / 1.17 | 57 / 2.48 | 3.1 / 0.08 | 0 / 0.00 | 112 / 1.84 | 43 / 0.90 | 85 / 2.40 | 1.9 / 0.03 | 0.2 / 0.01 | 0.20 | 11 | Fe 0.42 | 302[b] | 47 | 136 | 44 | | | USGS |
| May 19 1630 | | 72 | 11.7 | 132 | 515 | 8.4 | 30 / 1.497 | 13 / 1.083 | 53 / 2.305 | 3.5 / 0.090 | 0 / 0.000 | 122 / 1.999 | 34 / 0.708 | 80 / 2.256 | 0.7 / 0.011 | 0.3 / 0.016 | 0.19 | 6.8 | Fe 0.005; Al 0.005; (a) $PO_4$ 0.20 | 281[b] | 46 | 129 | 29 | 15 | | USGS |
| Jun 23 0950 | | 71 | 8.4 | 95 | 386 | 7.8 | 22 / 1.098 | 11 / 0.892 | 38 / 1.652 | 2.5 / 0.064 | 0 / 0.000 | 96 / 1.573 | 24 / 0.500 | 58 / 1.636 | 0.9 / 0.015 | 0.2 / 0.011 | 0.11 | 8.0 | Fe 0.05 | 212[b] | 45 | 99 | 20 | 20 | | USGS |
| Jul | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 25 1115 | | 77 | 6.6 | 79 | 383 | 7.3 | 20 / 0.998 | 11 / 0.922 | 38 / 1.652 | 2.2 / 0.056 | 0 / 0.000 | 101 / 1.655 | 21 / 0.437 | 55 / 0.551 | 1.2 / 0.019 | 0.2 / 0.011 | 0.16 | 17 | Fe 0.18 | 216[b] | 45 | 96 | 13 | 40 | | USGS |
| Sep 21 0910 | | 69 | 6.0 | 66 | 449 | 7.3 | 23 / 1.148 | 13 / 1.092 | 45 / 1.957 | 2.8 / 0.072 | 0 / 0.000 | 110 / 1.803 | 25 / 0.520 | 68 / 1.918 | 1.0 / 0.016 | 0.3 / 0.016 | 0.15 | 17 | Fe 0.10; Al 0.05; Cu 0.01; $PO_4$ 0.25; (a) | 249[b] | 46 | 109 | 19 | 45 | | USGS |
| Oct 18 1010 | | 64 | 5.6 | 59 | 537 | 7.3 | 26 / 1.00 | 19 / 1.60 | 56 / 2.44 | 3.6 / 0.09 | 0 / 0.00 | 131 / 2.15 | 30 / 0.62 | 80 / 2.26 | 1.9 / 0.03 | 0.5 / 0.03 | 0.16 | 13 | Fe 0.04 | 289[b] | 48 | 130 | 23 | 15 | | USGS |
| Nov 21 1430 | | 53 | 9.8 | 90 | 746 | 7.7 | 38 / 1.90 | 19 / 1.58 | 80 / 3.48 | 4.6 / 0.12 | 0 / 0.00 | 152 / 2.49 | 46 / 0.96 | 130 / 3.67 | 3.1 / 0.05 | 0.4 / 0.02 | 0.17 | 12 | Fe 0.03 | 408[b] | 49 | 174 | 49 | 9 | | USGS |
| Dec 20 1000 | | 52 | 8.3 | 75 | 808 | 7.1 | 50 / 2.50 | 21 / 1.70 | 82 / 3.57 | 4.6 / 0.12 | 0 / 0.00 | 105 / 1.72 | 98 / 2.04 | 129 / 3.64 | 14 / 0.23 | 0.5 / 0.03 | 0.21 | 21 | Fe 0.13 | 473[b] | 45 | 210 | 124 | 20 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 180 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) ppm / equiv. | Magnesium (Mg) ppm / equiv. | Sodium (Na) ppm / equiv. | Potassium (K) ppm / equiv. | Carbonate ($CO_3$) ppm / equiv. | Bicarbonate ($HCO_3$) ppm / equiv. | Sulfate ($SO_4$) ppm / equiv. | Chloride (Cl) ppm / equiv. | Nitrate ($NO_3$) ppm / equiv. | Fluoride (F) ppm / equiv. | Boron (B) ppm | Silica ($SiO_2$) ppm | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Stockton Ship Channel on Rindge Island** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1000 | | 47 | 9.3 | 79 | 166 | 7.1 | 12 / 0.599 | 4.9 / 0.401 | 12 / 0.522 | 2.6 / 0.067 | 0 / 0.000 | 58 / 0.951 | 10 / 0.208 | 14 / 0.395 | 2.3 / 0.037 | 0.6 / 0.032 | 0.17 | 18 | | 106[b] | 33 | 50 | 2 | 40 | | USGS |
| Feb 15 0950 | | 48 | 9.6 | 82 | 252 | 7.3 | 17 / 0.848 | 5.7 / 0.472 | 24 / 1.044 | 2.1 / 0.054 | 0 / 0.000 | 73 / 1.196 | 22 / 0.458 | 28 / 0.790 | 1.3 / 0.021 | 0.3 / 0.016 | 0.07 | 17 | | 153[b] | 43 | 66 | 6 | 40 | | USGS |
| Mar 19 1520 | | 56 | 8.5 | 81 | 343 | 7.1 | 14 / 0.700 | 12 / 0.980 | 30 / 1.305 | 1.9 / 0.049 | 0 / 0.000 | 78 / 1.278 | 24 / 0.500 | 46 / 1.297 | 1.8 / 0.029 | 0.4 / 0.021 | 0.12 | 18 | | 186[b] | 43 | 84 | 20 | 22 | | USGS |
| Apr 16 1455 | | 59 | 8.4 | 83 | 322 | 7.1 | 18 / 0.898 | 8.4 / 0.690 | 34 / 1.479 | 2.2 / 0.056 | 0 / 0.000 | 78 / 1.278 | 23 / 0.479 | 46 / 1.297 | 1.7 / 0.027 | 0.3 / 0.016 | 0.05 | 18 | | 190[b] | 47 | 79 | 15 | 10 | | USGS |
| May 14 1425 | | 64 | 8.7 | 91 | 130 | 7.1 | 12 / 0.599 | 1.5 / 0.121 | 12 / 0.522 | 1.3 / 0.033 | 0 / 0.000 | 44 / 0.721 | 7.6 / 0.158 | 14 / 0.395 | 0.8 / 0.013 | 0.3 / 0.016 | 0.10 | 14 | Fe 0.07; Al 0.03; Zn 0.01; $PO_4$ 0.20; (a) | 86[b] | 41 | 36 | 0 | 15 | | USGS |
| June 19 1805 | | 69 | 7.9 | 87 | 148 | 7.3 | 10 / 0.499 | 3.8 / 0.309 | 14 / 0.609 | 1.4 / 0.036 | 0 / 0.000 | 47 / 0.770 | 9.4 / 0.196 | 18 / 0.508 | 1.2 / 0.019 | 0.3 / 0.016 | 0.00 | [illegible] | Fe 0.03; (a) | 97[b] | 42 | 40 | 1 | 25 | | USGS |
| July 23 1400 | | 84 | 9.2 | 118 | 396 | 7.0 | 23 / 1.148 | 10 / 0.852 | 40 / 1.740 | 2.3 / 0.059 | 0 / 0.000 | 92 / 1.508 | 28 / 0.583 | 61 / 1.720 | 1.2 / 0.019 | 0.1 / 0.005 | 0.11 | 15 | | 226[b] | 46 | 100 | 25 | 30 | | USGS |
| Aug 20 1345 | | 77 | 9.2 | 110 | 390 | 7.5 | 24 / 1.198 | 8.6 / 0.710 | 41 / 1.784 | 2.3 / 0.059 | 0 / 0.000 | 91 / 1.491 | 25 / 0.520 | 63 / 1.777 | 1.3 / 0.021 | 0.1 / 0.005 | 0.13 | 7.1 | | 218[b] | 48 | 95 | 20 | 10 | | USGS |
| Sept 12 1510 | | 74 | 8.4 | 97 | 597 | 7.1 | 34 / 1.70 | 13 / 1.05 | 68 / 2.96 | 4.1 / 0.10 | 0 / 0.00 | 142 / 2.33 | 27 / 0.56 | 99 / 2.79 | 1.7 / 0.03 | 0.2 / 0.01 | 0.18 | 11 | Fe 0.01; Al 0.12; Cu 0.01; $PO_4$ 0.55; (a) | 328[b] | 51 | 137 | 21 | 10 | | USGS |
| Oct 15 1445 | | 70 | 12.5 | 139 | 618 | 7.5 | 35 / 1.75 | 14 / 1.14 | 69 / 3.00 | 4.3 / 0.11 | 0 / 0.00 | 143 / 2.34 | 27 / 0.56 | 106 / 2.99 | 2.7 / 0.04 | 0.2 / 0.01 | 0.20 | 23 | | 351[b] | 50 | 144 | 27 | | | USGS |
| Nov 19 1440 | | 52 | 10.3 | 93 | 626 | 7.7 | 34 / 1.70 | 15 / 1.20 | 68 / 2.96 | 3.5 / 0.09 | 0 / 0.00 | 121 / 1.98 | 51 / 1.06 | 106 / 2.99 | 4.1 / 0.07 | 0.1 / 0.01 | 0.22 | 23 | Fe 0.03; (a) | 365[b] | 50 | 145 | 46 | 8 | | USGS |
| Dec 17 1430 | | 50 | 7.6 | 67 | 487 | 7.1 | 26 / 1.30 | 13 / 1.08 | 49 / 2.13 | 2.4 / 0.06 | 0 / 0.00 | 88 / 1.44 | 37 / 0.77 | 77 / 2.17 | 6.9 / 0.11 | 0.1 / 0.01 | 0.15 | 18 | Fe 0.02; (a) | 273[b] | 47 | 119 | 47 | 25 | median 230<br>minimum 23<br>maximum 7000 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Stony Creek near Hamilton City | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1100 | 106 | 45 | 13.1 | 108 | 381 | 8.2 | 38 / 1.896 | 15 / 1.224 | 17 / 0.739 | 0.7 / 0.018 | 4 / 0.133 | 160 / 2.622 | | 26 / 0.733 | | | 0.04 | | | | 19 | 156 | 18 | 1 | | USGS |
| Feb 7 1230 | 100 | 50 | | | 404 | 8.4 | 41 / 2.046 | 16 / 1.314 | 20 / 0.870 | 0.6 / 0.015 | 7 / 0.233 | 160 / 2.622 | | 29 / 0.818 | | | 0.09 | | | | 20 | 168 | 25 | 0.6 | | USGS |
| Mar 7 1130 | 19 | 50 | 10.9 | 98 | 394 | 8.0 | 42 / 2.096 | 16 / 1.284 | 18 / 0.783 | 0.9 / 0.023 | 0 / 0.000 | 176 / 2.884 | | 26 / 0.733 | | | 0.00 | | | | 19 | 169 | 25 | 2 | | USGS |
| Apr 4 1045 | . | 52 | 11.0 | 100 | 390 | 8.1 | 39 / 1.946 | 18 / 1.446 | 18 / 0.783 | 0.7 / 0.018 | 0 / 0.000 | 193 / 3.163 | | 21 / 0.592 | | | 0.10 | | | | 19 | 170 | 12 | 0 | | USGS |
| May 12 0945 | 1.2 | 70 | 6.8 | 76 | 376 | 7.5 | 39 / 1.946 | 14 / 1.174 | 18 / 0.783 | 0.9 / 0.023 | 0 / 0.000 | 174 / 2.852 | 21 / 0.437 | 25 / 0.705 | 0.6 / 0.010 | 0.1 / 0.005 | 0.15 | 14 | Fe 0.01; Al 0.005; Pb 0.005; (a) $PO_4$ 0.10 | 219[b] | 20 | 156 | 13 | 1 | | USGS |
| Jun | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 3.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Stony Creek near Hamilton City | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1030 | 5,640 | 46 | 11.4 | 96 | 198 | 7.0 | 22 / 1.098 | 6.3 / 0.522 | 6.6 / 0.287 | 1.1 / 0.028 | 0 / 0.000 | 98 / 1.606 | | 9.0 / 0.254 | | | 0.12 | | | | 15 | 81 | 1 | 550 | | USGS |
| Feb 7 1145 | 385 | 47 | 11.4 | 97 | 334 | 7.0 | 36 / 1.796 | 11 / 0.932 | 14 / 0.609 | 0.8 / 0.020 | 3 / 0.100 | 151 / 2.475 | | 14 / 0.395 | | | 0.06 | | | | 18 | 136 | 7 | 60 | | USGS |
| Mar 13 1145 | 1,070 | 49 | 11.3 | 99 | 283 | 7.0 | 30 / 1.497 | 12 / 0.963 | 11 / 0.478 | 0.8 / 0.020 | 2 / 0.067 | 135 / 2.213 | | 8.7 / 0.245 | | | 0.11 | | | | 16 | 123 | 9 | 60 | | USGS |
| Apr 10 1145 | 338 | 56 | 10.4 | 99 | 280 | 7.1 | 33 / 1.647 | 9.2 / 0.753 | 12 / 0.522 | 1.0 / 0.026 | 0 / 0.000 | 144 / 2.360 | | 8.8 / 0.248 | | | 0.08 | | | | 18 | 120 | 2 | 15 | | USGS |
| May 8 1100 | 920 | 60 | 10.2 | 102 | 264 | 7.4 | 28 / 1.397 | 11 / 0.887 | 12 / 0.522 | 0.7 / 0.018 | 0 / 0.000 | 132 / 2.163 | 17 / 0.354 | 10 / 0.282 | 0.4 / 0.006 | 0.2 / 0.011 | 0.06 | 13 | Fe 0.02; Al 0.03; Cu 0.01; $PO_4$ 0.00; (a) | 157[b] | 18 | 114 | 6 | 40 | | USGS |
| June 12 1000 | 5.6 | 76 | 8.5 | 100 | 315 | 7.7 | 26 / 1.297 | 18 / 1.495 | 14 / 0.609 | 0.9 / 0.023 | 0 / 0.000 | 161 / 2.639 | | 14 / 0.395 | | | 0.09 | | | | 18 | 140 | 8 | 1 | | USGS |
| July 17 1300 | 6.7 | 79 | 8.3 | 101 | 325 | 7.7 | 30 / 1.497 | 16 / 1.291 | 15 / 0.652 | 1.1 / 0.028 | 0 / 0.000 | 168 / 2.754 | | 15 / 0.423 | | | 0.20 | | | | 19 | 139 | 1 | 0.4 | | USGS |
| Aug | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .5 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp[1] in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tule River near Porterville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 0935 | 87 | 43 | 11.9 | 96 | 359 | 7.9 | 44 / 2.196 | 7.3 / 0.604 | 22 / 0.957 | 4.2 / 0.107 | 0 / 0.000 | 198 / 3.245 | | 14 / 0.395 | | | 0.22 | | | | 25 | 140 | 0 | 6 | | USGS |
| Feb 10 1100 | 71 | 49 | 11.7 | 102 | 332 | 8.0 | 44 / 2.196 | 6.9 / 0.564 | 18 / 0.783 | 2.3 / 0.059 | 0 / 0.000 | 194 / 3.179 | | 10 / 0.282 | | | 0.09 | | | | 22 | 138 | 0 | 0.6 | | USGS |
| Mar 9 1030 | 122 | 56 | 10.3 | 99 | 241 | 8.0 | 31 / 1.547 | 4.8 / 0.393 | 14 / 0.609 | 2.2 / 0.056 | 0 / 0.000 | 138 / 2.262 | | 5.8 / 0.164 | | | 0.08 | | | | 23 | 97 | 0 | 0.6 | | USGS |
| Apr 13 0850 | 80 | 54 | 13.4 | 124 | 239 | 8.0 | 34 / 1.697 | 3.2 / 0.263 | 12 / 0.522 | 2.1 / 0.054 | 0 / 0.000 | 144 / 2.360 | | 6.2 / 0.175 | | | 0.09 | | | | 21 | 98 | 0 | 0.9 | | USGS |
| May 11 0935 | 229 | 60 | 9.9 | 93 | 158 | 7.9 | 21 / 1.048 | 2.6 / 0.212 | 8.1 / 0.352 | 1.4 / 0.036 | 0 / 0.000 | 94 / 1.541 | 2.0 / 0.042 | 3.8 / 0.107 | 0.4 / 0.006 | 0.2 / 0.011 | 0.05 | 23 | $PO_4$ 0.05 (a) | 109[b] | 21 | 63 | 0 | 0.7 | | USGS |
| Jun 15 0940 | 71 | 64 | 9.1 | 95 | 221 | 8.0 | 33 / 1.647 | 3.3 / 0.273 | 11 / 0.478 | 1.8 / 0.046 | 0 / 0.000 | 137 / 2.245 | | 4.8 / 0.135 | | | 0.19 | | | | 20 | 96 | 0 | 0 | | USGS |
| Jul 14 0745 | 6.4 | 75 | 7.9 | 92 | 366 | 7.5 | 49 / 2.445 | 7.5 / 0.615 | 20 / 0.870 | 3.9 / 0.100 | 9 / 0.297 | 202 / 3.310 | | 9.5 / 0.268 | | | 0.13 | | | | 22 | 153 | 0 | 3 | | USGS |
| Aug 17 1200 | 0.3 | 82 | 11.7 | 147 | 399 | 7.8 | 54 / 2.695 | 8.1 / 0.665 | 21 / 0.913 | 3.0 / 0.077 | 0 / 0.000 | 243 / 3.982 | | 12 / 0.338 | | | 0.19 | | | | 21 | 168 | 0 | 1 | | USGS |
| Sep | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 11 1450 | 0.4 | 68 | 11.4 | 124 | 421 | 7.7 | 52 / 2.595 | 9.9 / 0.813 | 26 / 1.131 | 3.2 / 0.082 | 3 / 0.100 | 236 / 3.868 | | 16 / 0.451 | | | 0.14 | | | | 24 | 170 | 0 | 1 | | USGS |
| Nov 15 1230 | 28 | 52 | 10.8 | 91 | 465 | 7.7 | 59 / 2.944 | 9.3 / 0.768 | 30 / 1.305 | 5.0 / 0.128 | 12 / 0.400 | 250 / 4.098 | | 20 / 0.564 | | | 0.14 | | | | 25 | 186 | 0 | 30 | | USGS |
| Dec 13 1240 | 102 | 48 | 10.4 | 90 | 271 | 7.5 | 35 / 1.746 | 5.8 / 0.474 | 15 / 0.652 | 2.5 / 0.064 | 0 / 0.000 | 154 / 2.524 | | 9.2 / 0.259 | | | 0.07 | | | | 22 | 111 | 0 | 3 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tule River near Porterville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1300 | 188 | 48 | 10.5 | 90 | 198 | 7.5 | 26 / 1.297 | 3.2 / 0.263 | 9.4 / 0.409 | 2.2 / 0.056 | 0 / 0.000 | 111 / 1.819 | | 5.0 / 0.141 | | | 0.06 | | | | 20 | 78 | 0 | 5 | | USGS |
| Feb 7 1300 | 345 | 46 | 11.4 | 95 | 170 | 7.5 | 21 / 1.048 | 3.3 / 0.268 | 8.9 / 0.387 | 1.7 / 0.043 | 1 / 0.033 | 96 / 1.573 | | 3.6 / 0.102 | | | 0.03 | | | | 22 | 66 | 0 | 4 | | USGS |
| Mar 13 1305 | 193 | 51 | 11.1 | 99 | 194 | 7.5 | 25 / 1.248 | 3.8 / 0.312 | 9.6 / 0.418 | 1.8 / 0.046 | 2 / 0.067 | 109 / 1.787 | | 5.5 / 0.155 | | | 0.22 | | | | 21 | 78 | 0 | 7 | | USGS |
| Apr 10 1340 | 208 | 55 | 10.0 | 94 | 167 | 7.5 | 22 / 1.098 | 2.8 / 0.232 | 8.9 / 0.387 | 1.8 / 0.046 | 0 / 0.000 | 102 / 1.672 | | 2.8 / 0.079 | | | 0.06 | | | | 22 | 66 | 0 | 3 | | USGS |
| May 8 1250 | 377 | 57 | 9.8 | 94 | 123 | 7.9 | 16 / 0.798 | 2.4 / 0.198 | 6.8 / 0.296 | 1.4 / 0.036 | 0 / 0.000 | 77 / 1.262 | 1.0 / 0.021 | 2.4 / 0.068 | 0.2 / 0.003 | 0.1 / 0.005 | 0.09 | 19 | Fe 0.05; Al 0.01; Cu 0.01; Zn 0.03; (a) $PO_4$ 0.00 | 87[b] | 22 | 50 | 0 | 2 | | USGS |
| June 12 1340 | 159 | 71 | [illegible].0 | 102 | 160 | 7.0 | 23 / 1.148 | 2.6 / 0.212 | 7.8 / 0.339 | 1.6 / 0.041 | 0 / 0.000 | 100 / 1.639 | | 3.5 / 0.099 | | | 0.00 | | | | 19 | 68 | 0 | 2 | | USGS |
| July 17 1230 | 34 | 78 | 8.9 | 107 | 318 | 7.3 | 33 / 1.647 | 14 / 1.129 | 15 / 0.652 | 3.0 / 0.077 | 0 / 0.000 | 200 / 3.278 | | 7.6 / 0.214 | | | 0.22 | | | | 19 | 139 | 0 | 0.8 | | USGS |
| Aug 14 1140 | 10 | 77 | 9.2 | 109 | 363 | 7.2 | 52 / 2.595 | 7.4 / 0.609 | 19 / 0.826 | 3.3 / 0.084 | 0 / 0.000 | 225 / 3.688 | | 9.0 / 0.254 | | | 0.11 | | | | 20 | 160 | 0 | 1 | | USGS |
| Sept 18 1210 | 6.8 | 75 | 9.6 | 112 | 401 | 7.7 | 51 / 2.545 | 12 / 0.975 | 22 / 0.957 | 3.6 / 0.092 | 0 / 0.000 | 251 / 4.114 | 5.8 / 0.121 | 11 / 0.310 | 0.6 / 0.010 | 0.2 / 0.011 | 0.14 | 35 | Al 0.07; $PO_4$ 0.05; (a) | 265[b] | 21 | 176 | 0 | 1.0 | | USGS |
| Oct 9 1230 | 23 | 71 | 8.8 | 99 | 405 | 7.9 | 44 / 2.196 | 15 / 1.244 | 23 / 1.000 | 3.7 / 0.095 | 0 / 0.000 | 249 / 4.081 | | 13 / 0.367 | | | 0.08 | | | | 22 | 172 | 0 | 0.4 | | USGS |
| Nov 14 1300 | 29 | 56 | 10.0 | 95 | 409 | 8.1 | 45 / 2.25 | 15 / 1.24 | 22 / 0.96 | 3.6 / 0.09 | 0 / 0.000 | 250 / 4.10 | | 12 / 0.34 | | | 0.09 | | | | 21 | 175 | 0 | 0.4 | | USGS |
| Dec 11 1235 | 34 | 50 | 11.2 | 99 | 411 | 8.1 | 38 / 1.90 | 20 / 1.66 | 22 / 0.96 | 3.6 / 0.09 | 0 / 0.000 | 252 / 4.13 | | 12 / 0.34 | | | 0.09 | | | | 21 | 178 | 0 | 0.4 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tuolumne River below Don Pedro Dam** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| July 19 1045 | 2,190 | 58 | 9.4 | 92 | 16.2 | 6.8 | 2.0 / 0.100 | 0.2 / 0.020 | 1.0 / 0.044 | 0.4 / 0.010 | 0 / 0.000 | 12 / 0.197 | | 0.0 / 0.000 | | | 0.10 | | | | 25 | 6 | 0 | 1 | | USGS |
| Aug 16 1330 | 2,190 | 62 | 9.6 | 98 | 13.6 | 6.8 | 1.6 / 0.080 | 0.2 / 0.020 | 0.7 / 0.030 | 0.5 / 0.013 | 0 / 0.000 | 9 / 0.148 | | 0.0 / 0.000 | | | 0.00 | | | | 21 | 5 | 0 | 0.4 | | USGS |
| Sept 19 1340 | 2,260 | 64 | 6.7 | 70 | 18.8 | 6.8 | 2.2 / 0.110 | 0.4 / 0.030 | 1.0 / 0.044 | 0.4 / 0.010 | 0 / 0.000 | 14 / 0.229 | 0.0 / 0.000 | 0.2 / 0.006 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 4.5 | Fe 0.02; Cu 0.01; $PO_4$ 0.00; (a) | 16[b] | 23 | 7 | 0 | 2 | | USGS |
| Oct 10 1345 | 1,440 | 64 | 6.2 | 65 | 27.5 | 6.8 | 3.0 / 0.15 | 0.6 / 0.05 | 1.2 / 0.05 | 0.6 / 0.02 | 0 / 0.00 | 13 / 0.21 | | 0.4 / 0.01 | | | 0.02 | | | | 19 | 10 | 0 | 2 | | USGS |
| Nov 15 1445 | 2,080 | 57 | 9.0 | 87 | 26.9 | 6.8 | 3.0 / 0.15 | 0.6 / 0.05 | 1.1 / 0.05 | 0.5 / 0.01 | 0 / 0.00 | 14 / 0.23 | | 0.5 / 0.01 | | | 0.04 | | | | 19 | 10 | 0 | 3 | median 2.3 minimum .23 maximum 62 | USGS |
| Dec 13 0740 | 1,764 | 52 | 10.6 | 96 | 31.7 | 6.8 | 4.0 / 0.20 | 1.0 / 0.08 | 1.2 / 0.05 | 0.5 / 0.01 | 0 / 0.00 | 16 / 0.26 | | 0.2 / 0.01 | | | 0.04 | | | | 15 | 14 | 1 | 5 | | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tuolumne River at Hickman - Waterford Bridge** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1130 | 715 | 47 | 10.4 | 88 | 136 | 6.9 | 11 / 0.549 | 2.8 / 0.231 | 11 / 0.478 | 1.3 / 0.033 | 0 / 0.000 | 32 / 0.524 | | 20 / 0.564 | | | 0.00 | | | | 37 | 39 | 13 | 15 | | USGS |
| Feb 11 1245 | 70 | 48 | 12.0 | 103 | 93.1 | 7.2 | 7.8 / 0.389 | 2.8 / 0.231 | 5.8 / 0.252 | 0.9 / 0.023 | 0 / 0.000 | 37 / 0.606 | | 7.8 / 0.220 | | | 0.00 | | | | 28 | 31 | 1 | 2 | | USGS |
| Mar 10 1600 | 690 | 54 | 13.0 | 120 | 120 | 8.2 | 8.8 / 0.439 | 3.9 / 0.321 | 9.4 / 0.409 | 1.3 / 0.033 | 0 / 0.000 | 39 / 0.639 | | 15 / 0.423 | | | 0.02 | | | | 34 | 38 | 6 | 2 | | USGS |
| Apr 14 1415 | 114 | 68 | 11.5 | 105 | 528 | 8.2 | 27 / 1.347 | 12 / 0.973 | 52 / 2.261 | 4.9 / 0.125 | 0 / 0.000 | 104 / 1.704 | | 106 / 2.990 | | | 0.06 | | | | 48 | 116 | 31 | 2 | | USGS |
| May 12 1330 | 125 | 77 | 11.4 | 106 | 501 | 8.4 | 29 / 1.447 | 9.6 / 0.793 | 51 / 2.218 | 4.9 / 0.125 | 0 / 0.000 | 104 / 1.704 | 3.0 / 0.062 | 100 / 2.820 | 0.6 / 0.010 | 0.2 / 0.011 | 0.10 | 40 | $PO_4$ 0.15 | 289[b] | 48 | 112 | 27 | 1 | | USGS |
| Jun 16 1330 | 114 | 75 | 11.0 | 128 | 509 | 8.4 | 30 / 1.497 | 11 / 0.883 | 53 / 2.305 | 5.2 / 0.133 | 0 / 0.000 | 106 / 1.737 | | 104 / 2.933 | | | 0.12 | | | | 48 | 119 | 32 | 1 | | USGS |
| Jul 12 [illegible] | 100 | 75 | 8.5 | 100 | 613 | 8.1 | 32 / 1.60 | 12 / 0.98 | 65 / 2.83 | 6.8 / 0.17 | 0 / 0.00 | 110 / 1.80 | | 132 / 3.72 | | | 0.16 | | | | 51 | 129 | 39 | 5 | | USGS |
| Aug 18 1600 | 98 | 78 | 9.5 | 114 | 570 | 8.0 | 30 / 1.50 | 11 / 0.90 | 59 / 2.57 | 5.8 / 0.15 | 0 / 0.00 | 110 / 1.80 | | 115 / 3.24 | | | 0.07 | | | | 50 | 120 | 30 | 1 | | USGS |
| Sep 15 1745 | 96 | 71 | 7.2 | 103 | 567 | 7.9 | 32 / 1.60 | 11 / 1.87 | 57 / 2.48 | 5.9 / 0.15 | 0 / 0.00 | 107 / 1.75 | 3.6 / 0.07 | 118 / 3.33 | 0.7 / 0.01 | 0.1 / 0.01 | 0.13 | 55 | Fe 0.04; Al 0.10; Cu 0.01; Zn 0.03; (a) | 336[b] | 49 | 123 | 35 | 2 | | USGS |
| Oct 12 1715 | 102 | 67 | 10.6 | 114 | 553 | 7.7 | 30 / 1.50 | 12 / 0.98 | 61 / 2.65 | 5.6 / 0.14 | 0 / 0.00 | 109 / 1.79 | | 111 / 3.13 | | | 0.08 | | | | 50 | 123 | 34 | 7 | | USGS |
| Nov 17 1115 | 1,558 | 53 | 9.1 | 83 | 113 | 7.1 | 7.6 / 0.379 | 2.4 / 0.197 | 11 / 0.478 | 1.3 / 0.033 | 0 / 0.000 | 32 / 0.524 | | 19 / 0.536 | | | 0.00 | | | | 44 | 29 | 3 | 30 | | USGS |
| Dec 15 1340 | 645 | 50 | 9.7 | 86 | 119 | 7.1 | 2.7 / 0.434 | 3.0 / 0.250 | 8.9 / 0.387 | 1.4 / 0.036 | 0 / 0.000 | 35 / 0.574 | | 15 / 0.423 | | | 0.00 | | | | 35 | 34 | 5 | 20 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 minimum .045 - maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tuolumne River at Hickman-Waterford Bridge** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1045 | 7,700 | 45 | 11.6 | 96 | 60.2 | 7.1 | 5.8 / 0.289 | 2.2 / 0.183 | 2.2 / 0.096 | 1.0 / 0.026 | 0 / 0.000 | 29 / 0.475 | | 0.0 / 0.000 | | | 0.04 | | | | 16 | 24 | 0 | 35 | | USGS |
| Feb 8 1600 | 3,600 | 45 | 11.7 | 97 | 77.2 | 7.3 | 8.1 / 0.404 | 2.0 / 0.168 | 3.3 / 0.144 | 1.0 / 0.026 | 0 / 0.000 | 38 / 0.623 | | 0.0 / 0.000 | | | 0.07 | | | | 19 | 29 | 0 | 15 | | USGS |
| Mar 15 1100 | 1,880 | 46 | 12.5 | 105 | 84.5 | 7.3 | 7.8 / 0.389 | 3.8 / 0.311 | 3.8 / 0.165 | 1.1 / 0.028 | 0 / 0.000 | 40 / 0.656 | | 4.8 / 0.135 | | | 0.01 | | | | 18 | 35 | 2 | 4 | | USGS |
| Apr 12 1115 | 1,340 | 49 | 11.1 | 97 | 74.3 | 7.1 | 5.6 / 0.279 | 2.2 / 0.181 | 5.1 / 0.222 | 1.1 / 0.028 | 0 / 0.000 | 34 / 0.557 | | 5.8 / 0.164 | | | 0.03 | | | | 31 | 23 | 0 | 3 | | USGS |
| May 7 1040 | 5,600 | 54 | 10.8 | 100 | 41.9 | 7.1 | 4.4 / 0.220 | 1.5 / 0.120 | 2.4 / 0.104 | 0.8 / 0.020 | 0 / 0.000 | 25 / 0.410 | 0.0 / 0.000 | 2.0 / 0.056 | 0.3 / 0.005 | 0.0 / 0.000 | 0.04 | 9.2 | Fe 0.04; Zn 0.01; $PO_4$ 0.05; (a) | 33[b] | 22 | 17 | 0 | 6 | | USGS |
| June 14 1010 | 2,040 | 59 | 10.1 | 100 | 33.3 | 6.8 | 4.4 / 0.220 | 1.2 / 0.100 | 2.4 / 0.104 | 0.7 / 0.018 | 0 / 0.000 | 21 / 0.344 | | 2.2 / 0.062 | | | 0.09 | | | | 24 | 16 | 0 | 3 | | USGS |
| July 19 1330 | 127 | 80 | 10.0 | 123 | 455 | 7.1 | 26 / 1.297 | 10 / 0.843 | 46 / 2.001 | 4.7 / 0.120 | 0 / 0.000 | 102 / 1.672 | | 87 / 2.453 | | | 0.09 | | | | 47 | 107 | 23 | 4 | | USGS |
| Aug 16 1130 | 335 | 71 | 9.3 | 105 | 146 | 7.1 | 9.0 / 0.449 | 2.9 / 0.235 | 14 / 0.609 | 1.7 / 0.043 | 0 / 0.000 | 37 / 0.606 | | 24 / 0.677 | | | 0.00 | | | | 46 | 34 | 4 | 2 | | USGS |
| Sept 19 1500 | 549 | 68 | 9.4 | 102 | 124 | 7.1 | 7.9 / 0.394 | 2.7 / 0.226 | 12 / 0.522 | 1.4 / 0.036 | 0 / 0.000 | 34 / 0.557 | 1.5 / 0.031 | 22 / 0.620 | 0.5 / 0.008 | 0.0 / 0.000 | 0.01 | 14 | Fe 0.01; Al 0.05; Cu 0.01; $PO_4$ 0.05; (a) | 79[b] | 44 | 31 | 3 | 0.7 | | USGS |
| Oct 10 1550 | 324 | 67 | 10.0 | 108 | 159 | 7.5 | 10 / 0.50 | 3.4 / 0.28 | 15 / 0.65 | 1.7 / 0.04 | 0 / 0.00 | 41 / 0.67 | | 28 / 0.79 | | | 0.18 | | | | 44 | 39 | 5 | 2 | | USGS |
| Nov 16 0820 | 854 | 54 | 9.7 | 90 | 97.6 | 7.0 | 6.8 / 0.34 | 2.2 / 0.18 | 7.9 / 0.34 | 1.3 / 0.03 | 0 / 0.00 | 32 / 0.52 | | 14 / 0.39 | | | 0.03 | | | | 38 | 26 | 0 | 2 | | USGS |
| Dec 13 1045 | 984 | 53 | 10.9 | 100 | 75.6 | 7.1 | 6.0 / 0.30 | 2.2 / 0.18 | 5.4 / 0.23 | 1.1 / 0.03 | 0 / 0.00 | 26 / 0.43 | | 8.5 / 0.24 | | | 0.08 | | | | 31 | 24 | 3 | 3 | median 13 minimum .62 maximum 2400 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Tuolumne River at La Grange | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1035 | 582 | 46 | 11.2 | 94 | 55.1 | 6.7 | 5.7 / 0.284 | 1.8 / 0.146 | 2.3 / 0.100 | 0.5 / 0.013 | 0 / 0.000 | 27 / 0.442 | | 1.2 / 0.034 | | | 0.00 | | | | 18 | 22 | 0 | 40 | | USGS |
| Feb 11 1200 | 1,490 | 46 | 11.9 | 99 | 56.6 | 7.0 | 5.3 / 0.264 | 2.1 / 0.176 | 2.4 / 0.104 | 0.5 / 0.013 | 0 / 0.000 | 29 / 0.475 | | 1.5 / 0.042 | | | 0.00 | | | | 19 | 22 | 0 | 2 | | USGS |
| Mar 11 1050 | 582 | 52 | 11.8 | 107 | 51.8 | 7.2 | 5.5 / 0.274 | 2.0 / 0.165 | 2.4 / 0.104 | 0.7 / 0.018 | 0 / 0.000 | 25 / 0.410 | | 1.0 / 0.028 | | | 0.03 | | | | 19 | 22 | 2 | 3 | | USGS |
| Apr 14 1340 | [illegible] | 62 | 11.2 | 114 | 53.0 | 7.7 | 2.6 / 0.130 | 3.2 / 0.262 | 2.4 / 0.104 | 0.4 / 0.015 | 0 / 0.000 | 27 / 0.442 | | 1.0 / 0.028 | | | 0.02 | | | | 20 | 20 | 0 | 2 | | USGS |
| May 12 1145 | [illegible] | 68 | 9.1 | 99 | 48.1 | 7.0 | 1.6 / 0.080 | 2.4 / 0.200 | 2.6 / 0.113 | 0.7 / 0.018 | 0 / 0.000 | 26 / 0.426 | 3.0 / 0.062 | 0.5 / 0.014 | 0.2 / 0.003 | 0.1 / 0.005 | 0.00 | 19 | Mn 0.02; (a) $PO_4$ 0.05 | 44[b] | 25 | 18 | 0 | 2 | | USGS |
| Jun 15 1020 | [illegible] | 70 | 9.1 | 101 | 43.4 | 7.2 | 5.3 / 0.264 | 1.9 / 0.156 | 2.2 / 0.096 | 0.5 / 0.013 | 0 / 0.000 | 27 / 0.442 | | 0.5 / 0.014 | | | 0.00 | | | | 18 | 21 | 0 | 4 | | USGS |
| Jul 12 1000 | [illegible] | 76 | 8.4 | 99 | 45.5 | 7.1 | 4.0 / 0.200 | 1.5 / 0.120 | 2.8 / 0.122 | 0.7 / 0.018 | 0 / 0.000 | 23 / 0.377 | | 1.2 / 0.034 | | | 0.04 | | | | 27 | 16 | 0 | 1 | | USGS |
| Aug 18 1450 | [illegible] | 78 | 8.5 | 102 | 40.3 | 7.2 | 3.8 / 0.190 | 1.3 / 0.110 | 1.7 / 0.074 | 0.3 / 0.008 | 0 / 0.000 | 21 / 0.344 | | 0.5 / 0.014 | | | 0.00 | | | | 19 | 15 | 0 | 6 | | USGS |
| Sept 15 1630 | 20 | 72 | 8.3 | 95 | 38.3 | 7.3 | 4.5 / [illegible] | 0.9 / 0.071 | 1.4 / 0.061 | 0.5 / 0.013 | [illegible] / 0.000 | 21 / 0.344 | 0.4 / 0.017 | 0.2 / 0.006 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 7.0 | Fe 0.01; Cu 0.01; Zn 0.01; (a) | 25[b] | 16 | 15 | 0 | 2 | | USGS |
| Oct 12 1600 | 23 | 62 | 8.4 | 92 | 47.4 | 7.5 | [illegible] / 0.150 | 1.9 / 0.158 | 1.8 / 0.078 | 0.6 / 0.015 | [illegible] / 0.000 | 24 / 0.393 | | [illegible] / 0.003 | | | 0.00 | | | | 18 | 17 | 0 | 0.8 | | USGS |
| Nov 17 1015 | 556 | 54 | 9.2 | 95 | 47.1 | 6.9 | 3.0 / [illegible] | 0.5 / 0.040 | 1.8 / 0.078 | 6.5 / 0.13 | 0 / 0.000 | 16 / 0.262 | | 1.0 / 0.028 | | | 0.00 | | | | 26 | 10 | 0 | 4.0 | | USGS |
| Dec 14 1635 | 507 | 49 | 10.3 | 90 | [illegible] | 6.8 | 4.5 / 0.245 | 1.3 / 0.111 | 2.2 / 0.096 | [illegible] / [illegible] | 0 / 0.000 | 2[illegible] / 0.361 | | 1.0 / [illegible] | | | 0.07 | | | | 20 | 13 | 0 | 40 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 4.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 62 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (m.cromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tuolumne River at La Grange** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0940 | 7,940 | 45 | 12.5 | 103 | 56.1 | 7.1 | 5.6 / 0.279 | 2.0 / 0.161 | 2.2 / 0.096 | 1.0 / 0.026 | 0 / 0.000 | 29 / 0.475 | | 0.5 / 0.014 | | | 0.00 | | | | 17 | 22 | 0 | 35 | | USGS |
| Feb 8 1500 | 2,210 | 44 | 12.6 | 102 | 65.4 | 7.3 | 7.1 / 0.354 | 2.0 / 0.164 | 2.6 / 0.113 | 0.9 / 0.023 | 0 / 0.000 | 34 / 0.557 | | 0.0 / 0.000 | | | 0.07 | | | | 17 | 26 | 0 | 15 | | USGS |
| Mar 15 1000 | 1,490 | 45 | 12.7 | 105 | 63.9 | 7.3 | 6.6 / 0.329 | 2.6 / 0.211 | 2.2 / 0.096 | 0.9 / 0.023 | 0 / 0.000 | 34 / 0.557 | | 0.8 / 0.023 | | | 0.00 | | | | 15 | 27 | 0 | 8 | | USGS |
| Apr 12 1015 | 1,500 | 48 | 11.7 | 101 | 40.1 | 7.3 | 4.9 / 0.245 | 0.7 / 0.055 | 1.8 / 0.078 | 0.8 / 0.020 | 0 / 0.000 | 24 / 0.393 | | 0.0 / 0.000 | | | 0.00 | | | | 20 | 15 | 0 | 7 | | USGS |
| May 7 1200 | 5,920 | 53 | 11.6 | 106 | 34.3 | 7.1 | 4.0 / 0.200 | 1.0 / 0.080 | 1.7 / 0.074 | 0.7 / 0.018 | 0 / 0.000 | 21 / 0.344 | 1.0 / 0.021 | 0.5 / 0.014 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 9.0 | Fe 0.01; Cu 0.01; Zn 0.03; $PO_4$ 0.05 (a) | 28[b] | 20 | 14 | 0 | 1 | median .28 minimum .12 maximum 230 | USGS |
| June 14 0915 | 2,180 | 56 | 10.9 | 104 | 21.1 | 6.8 | 2.5 / 0.125 | 0.2 / 0.015 | 2.0 / 0.087 | 0.5 / 0.013 | 0. / 0.000 | 14 / 0.229 | | 0.0 / 0.000 | | | 0.08 | | | | 36 | 7 | 0 | 3 | | USGS |

Discontinued in June 1956

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Tuolumne River at Tuolumne City | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 13 1610 | 990 | 47 | 8.4 | 71 | 334 | 7.0 | 21 / 1.048 | 6.0 / 0.492 | 32 / 1.391 | 3.1 / 0.079 | 0 / 0.000 | 64 / 1.049 | | 63 / 1.777 | | | 0.19 | | | | 46 | 77 | 25 | 35 | | USGS |
| Feb 8 1310 | 1,270 | 52 | 10.0 | 91 | 331 | 7.2 | 20 / 0.998 | 6.8 / 0.562 | 32 / 1.391 | 2.3 / 0.059 | 0 / 0.000 | 66 / 1.082 | | 62 / 1.749 | | | 0.03 | | | | 46 | 78 | 24 | 6 | | USGS |
| Mar 11 1320 | 855 | 61 | 9.2 | 93 | 359 | 7.2 | 22 / 1.098 | 6.3 / 0.522 | 36 / 1.565 | 2.9 / 0.074 | 0 / 0.000 | 67 / 1.098 | | 72 / 2.031 | | | 0.07 | | | | 48 | 81 | 26 | 3 | | USGS |
| Apr 14 1630 | 145 | 68 | 8.7 | 95 | 889 | 7.6 | 49 / 2.45 | 17 / 1.40 | 95 / 4.13 | 7.4 / 0.19 | 0 / 0.00 | 152 / 2.49 | | 195 / 5.50 | | | 0.10 | | | | 51 | 192 | 67 | 3 | | USGS |
| May 12 1510 | 280 | 78 | 8.8 | 106 | 863 | 7.9 | 47 / 2.35 | 16 / 1.29 | 95 / 4.13 | 7.8 / 0.20 | 0 / 0.00 | 142 / 2.33 | 8.1 / 0.17 | 186 / 5.25 | 2.5 / 0.04 | 0.3 / 0.02 | 0.12 | 57 | Fe 0.03; Al 0.05; Mn 0.005; Pb 0.005; (a) $PO_4$ 0.65 | 490[b] | 52 | 182 | 66 | 5 | | USGS |
| Jun 17 0730 | 300 | 6[illegible] | 5.9 | 65 | 757 | 7.4 | 42 / 2.10 | 15 / 1.24 | 80 / 3.48 | 6.6 / 0.17 | 0 / 0.00 | 155 / 2.54 | | 151 / 4.26 | | | 0.15 | | | | 50 | 167 | 40 | 3 | | USGS |
| Jul 15 0800 | 260 | 74 | 4.7 | 55 | 758 | 7.3 | 45 / 2.25 | 14 / 1.19 | 80 / 3.48 | 6.3 / 0.16 | 0 / 0.00 | 157 / 2.57 | | 150 / 4.23 | | | 0.12 | | | | 49 | 172 | 43 | 20 | | USGS |
| Aug 15 1205 | 275 | 76 | 9.4 | 111 | 742 | 7.6 | 44 / 2.20 | 14 / 1.14 | 72 / 3.13 | 5.4 / 0.14 | 0 / 0.00 | 159 / 2.61 | | 146 / 4.12 | | | 0.12 | | | | 47 | 167 | 37 | 4 | | USGS |
| Sep 16 0945 | 275 | 67 | 3.9 | 42 | 786 | 7.3 | 45 / 2.25 | 15 / 1.24 | 85 / 3.70 | 5.8 / 0.15 | 0 / 0.00 | 173 / 2.84 | 9.0 / 0.19 | 151 / 4.26 | 1.0 / 0.02 | 0.2 / 0.01 | 0.12 | 44 | Fe 0.03; Al 0.02; Cu 0.01; (a) | 441[b] | 50 | 174 | 32 | 4.0 | | USGS |
| Oct 13 0900 | 295 | 62 | 4.3 | 44 | 776 | 6.3 | 47 / 2.35 | 14 / 1.17 | 86 / 3.74 | 5.9 / 0.15 | 0 / 0.00 | 162 / 2.66 | | 155 / 4.37 | | | 0.12 | | | | 50 | 176 | 43 | 5 | | USGS |
| Nov 17 1230 | 650 | 51 | 6.5 | 58 | 572 | 7.1 | 34 / 1.70 | 10 / 0.84 | 60 / 2.61 | 6.1 / 0.16 | 0 / 0.00 | 102 / 1.67 | | 121 / 3.41 | | | 0.04 | | | | 49 | 127 | 43 | 35 | | USGS |
| Dec 15 0825 | 525 | 51 | 7.5 | 67 | 366 | 7.0 | 23 / 1.148 | 7.2 / 0.596 | 39 / 1.696 | 3.4 / 0.087 | 0 / 0.000 | 66 / 1.082 | | 74 / 2.087 | | | 0.00 | | | | 48 | 87 | 33 | 10 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 1850 minimum 6.2 maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tuolumne River at Tuolumne City** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 1205 | 7,960 | 46 | 10.8 | 90 | 86.0 | 7.1 | 7.3 / 0.364 | 2.7 / 0.220 | 4.7 / 0.204 | 1.4 / 0.036 | 0 / 0.000 | 32 / 0.524 | | 6.9 / 0.195 | | | 0.01 | | | | 25 | 29 | 3 | 35 | | USGS |
| Feb 9 0845 | 4,100 | 45 | 10.8 | 89 | 160 | 7.1 | 11 / 0.549 | 4.9 / 0.399 | 12 / 0.522 | 1.5 / 0.038 | 0 / 0.000 | 49 / 0.803 | | 20 / 0.564 | | | 0.07 | | | | 35 | 47 | 7 | 30 | | USGS |
| Mar 15 1240 | 2,055 | 50 | 11.0 | 97 | 184 | 7.1 | 12 / 0.599 | 4.9 / 0.401 | 15 / 0.652 | 1.7 / 0.043 | 0 / 0.000 | 53 / 0.869 | | 28 / 0.790 | | | 0.19 | | | | 38 | 50 | 7 | 8 | | USGS |
| Apr 12 1230 | 1,610 | 53 | 9.8 | 90 | 212 | 7.3 | 14 / 0.699 | 3.8 / 0.311 | 20 / 0.870 | 1.9 / 0.049 | 0 / 0.000 | 52 / 0.852 | | 38 / 1.072 | | | 0.06 | | | | 45 | 50 | 7 | 10 | | USGS |
| May 10 1100 | 4,225 | 56 | 9.8 | 93 | 74.5 | 7.1 | 6.0 / 0.299 | 1.5 / 0.121 | 6.2 / 0.270 | 1.1 / 0.028 | 0 / 0.000 | 26 / 0.426 | 0.0 / 0.000 | 11 / 0.310 | 0.2 / 0.003 | 0.1 / 0.005 | 0.05 | 9.6 | $PO_4$ 0.00 | | 38 | 21 | 0 | 3 | | USGS |
| June 14 1350 | 1,675 | 71 | 7.0 | 79 | 418 | 6.8 | 30 / 1.497 | 5.7 / 0.471 | 42 / 1.827 | 3.3 / 0.034 | 0 / 0.000 | 93 / 1.524 | | 79 / 2.228 | | | 0.18 | | | | 47 | 98 | 22 | 5 | | USGS |
| July 18 1300 | 680 | 78 | 16.4 | 198 | 757 | 8.0 | 48 / 2.40 | 13 / 1.06 | 85 / 3.70 | 5.7 / 0.15 | 0 / 0.00 | 154 / 2.52 | | 56 / 1.58 | | | 0.14 | | | | 51 | 173 | 47 | 4 | | USGS |
| Aug 15 1330 | 770 | 75 | 7.3 | 85 | 486 | 7.0 | 29 / 1.447 | 8.5 / 0.697 | 50 / 2.175 | 4.0 / 0.102 | 0 / 0.000 | 100 / 1.639 | | 95 / 2.679 | | | 0.07 | | | | 49 | 107 | 25 | 2 | | USGS |
| Sept 20 0740 | 910 | 68 | 5.8 | 63 | 366 | 7.1 | 23 / 1.148 | 6.0 / 0.492 | 38 / 1.653 | 3.0 / 0.077 | 0 / 0.000 | 75 / 1.229 | 4.2 / 0.087 | 73 / 2.059 | 1.8 / 0.029 | 0.1 / 0.005 | 0.06 | 20 | Fe 0.01; Al 0.02; Cu 0.01; Zn 0.07; $PO_4$ 0.30; (a) | 206[b] | 49 | 82 | 20 | 2 | | USGS |
| Oct 11 0815 | 815 | 65 | 7.0 | 74 | 374 | 7.1 | 23 / 1.15 | 6.3 / 0.52 | 38 / 1.65 | 3.0 / 0.08 | 0 / 0.00 | 77 / 1.26 | | 74 / 2.09 | | | 0.10 | | | | 49 | 84 | 21 | 3 | | USGS |
| Nov 16 0925 | 880 | 54 | 8.6 | 80 | 318 | 7.1 | 20 / 1.00 | 5.0 / 0.41 | 31 / 1.35 | 2.2 / 0.06 | 0 / 0.00 | 64 / 1.05 | | 63 / 1.78 | | | 0.10 | | | | 48 | 70 | 18 | 2 | | USGS |
| Dec 13 1250 | 1,325 | 54 | 9.5 | 83 | 236 | 7.1 | 15 / 0.75 | 5.2 / 0.43 | 23 / 1.00 | 1.9 / 0.05 | 0 / 0.00 | 57 / 0.93 | | 46 / 1.30 | | | 0.00 | | | | 45 | 59 | 12 | 5 | median 2400; minimum 230; maximum 7000+ | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH); City of Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Yuba River at Marysville | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 12 0745 | 1,0[illegible] | 39 | 12.2 | 94 | 99.0 | 7.2 | 12 / 0.599 | 3.7 / 0.301 | 2.7 / 0.117 | 0.5 / 0.013 | 0 / 0.000 | 50 / 0.819 | | 1.8 / 0.051 | | | 0.11 | | | | 11 | 45 | 4 | 55 | | USGS |
| Feb 8 1400 | 1,010 | 47 | 13.2 | 112 | 97.9 | 8.0 | 12 / 0.599 | 3.4 / 0.281 | 3.2 / 0.139 | 0.5 / 0.013 | 0 / 0.000 | 50 / 0.819 | | 1.0 / 0.028 | | | 0.00 | | | | 13 | 44 | 3 | 8 | | USGS |
| Mar 8 1115 | 1,1[illegible] | 49 | 11.8 | [illegible] | 101 | 7.4 | 12 / 0.599 | 4.1 / 0.341 | 3.3 / 0.143 | 0.5 / 0.013 | 0 / 0.000 | 52 / 0.852 | | 1.5 / 0.042 | | | 0.00 | | | | 13 | 47 | 4 | 8 | | USGS |
| Apr 5 1030 | 1,[illegible] | 59 | 11.1 | [illegible] | 89.1 | 7.4 | 7.9 / 0.394 | 4.5 / 0.366 | 2.7 / 0.117 | 0.4 / 0.010 | 0 / 0.000 | 48 / 0.787 | | 0.6 / 0.017 | | | 0.03 | | | | 13 | 38 | 0 | 7 | | USGS |
| May 13 0750 | [illegible] | 55 | 10.9 | 101 | 61.7 | 7.2 | 8.5 / 0.424 | 1.9 / 0.156 | 1.8 / 0.078 | 0.4 / 0.010 | 0 / 0.000 | 34 / 0.557 | 4.6 / 0.096 | 0.3 / 0.023 | 0.2 / 0.003 | 0.1 / 0.005 | 0.04 | 12 | Fe 0.01; Al 0.07; Cu 0.01; (a) $PO_4$ 0.05 | 47[b] | 12 | 29 | 1 | 20 | | USGS |
| Jun 17 0850 | [illegible] | 64 | 8.9 | 93 | 65.5 | 7.3 | 9.2 / 0.489 | 1.1 / 0.087 | 2.2 / 0.096 | 0.6 / 0.015 | 0 / 0.000 | 36 / 0.590 | | 0.3 / 0.008 | | | 0.00 | | | | 14 | 29 | 0 | 12 | | USGS |
| Jul 15 0740 | 202 | 69 | 8.7 | 96 | 99.0 | 7.3 | 11 / 0.549 | 3.8 / 0.311 | 3.1 / 0.135 | 0.6 / 0.015 | 0 / 0.000 | 50 / 0.819 | | 0.5 / 0.014 | | | 0.00 | | | | 13 | 43 | 2 | 8 | | USGS |
| Aug 19 0745 | 157 | 70 | 8.2 | 91 | 116 | 7.3 | 12 / 0.599 | 4.9 / 0.401 | 3.3 / 0.143 | 0.8 / 0.020 | 0 / 0.000 | 62 / 1.016 | | 1.5 / 0.042 | | | 0.14 | | | | 12 | 50 | 0 | 20 | | USGS |
| Sep 1[illegible] [illegible] | 57 | 67 | [illegible] | 94 | [illegible] | 7.2 | 18 / [illegible] | 5.4 / 0.44[illegible] | 3.7 / 0.161 | 0.9 / 0.0[illegible] | 0 / 0.000 | 73 / 1.196 | 14 / [illegible] | 1.0 / 0.0[illegible] | 0.2 / 0.0[illegible] | 0.1 / 0.005 | 0.14 | 20 | Fe 0.06; Al 0.04; Cu 0.01; Zn 0.01; (a) | 99[b] | 11 | 67 | 7 | 0.8 | | USGS |
| Oct 13 1945 | 9[illegible] | [illegible] | 9.7 | 106 | [illegible] | 7.1 | 14 / [illegible] | 6.0 / 0.497 | 3.7 / 0.161 | 0.7 / 0.018 | 0 / 0.000 | 67 / 1.098 | | 0.3 / [illegible] | | | 0.00 | | | | 12 | 60 | 5 | 3 | | USGS |
| Nov 18 [illegible] | 4[illegible] | [illegible] | 10.8 | 9[illegible] | [illegible] | 7.0 | 16 / 0.798 | 4.5 / 0.374 | 4.2 / 0.183 | 0.8 / 0.020 | 0 / 0.000 | 70 / 1.147 | | 1.5 / 0.042 | | | 0.00 | | | | 13 | 59 | 2 | 10 | | USGS |
| Dec 16 [illegible] | [illegible] | 48 | 12.1 | 104 | 112 | 6.8 | 13 / 0.649 | 3.8 / 0.311 | 3.6 / 0.157 | 0.7 / 0.018 | 0 / 0.000 | 57 / 0.934 | | 1.5 / 0.042 | | | 0.09 | | | | 14 | 48 | 1 | 30 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | Median 6.2 minimum .23 maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Yuba River at Marysville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1020 | 33,200 | 48 | 12.4 | 107 | 52.2 | 6.8 | 5.4 / 0.269 | 1.8 / 0.151 | 1.6 / 0.070 | 0.6 / 0.015 | 0 / 0.000 | 27 / 0.443 | | 0.5 / 0.014 | | | 0.00 | | | | 14 | 21 | 0 | 220 | | USGS |
| Feb 6 1230 | 4,450 | 48 | 12.2 | 105 | 68.4 | 7.2 | 9.5 / 0.474 | 1.2 / 0.098 | 2.4 / 0.104 | 0.4 / 0.010 | 0 / 0.000 | 36 / 0.590 | | 0.0 / 0.000 | | | 0.01 | | | | 15 | 29 | 0 | 50 | | USGS |
| Mar 12 1140 | 3,510 | 46 | 12.0 | 100 | 75.7 | 6.8 | 8.8 / 0.439 | 2.4 / 0.195 | 2.6 / 0.113 | 0.6 / 0.015 | 0 / 0.000 | 40 / 0.656 | | .0.0 / 0.000 | | | 0.01 | | | | 15 | 32 | 0 | 20 | | USGS |
| Apr 9 1145 | 4,080 | 53 | 11.0 | 101 | 71.5 | 7.0 | 8.5 / 0.424 | 2.2 / 0.180 | 2.3 / 0.100 | 0.5 / 0.013 | 0 / 0.000 | 43 / 0.705 | | 0.0 / 0.000 | | | 0.00 | | | | 14 | 30 | 0 | 7 | | USGS |
| May 7 1050 | 10,200 | 52 | 11.5 | 104 | 51.5 | 6.8 | 6.8 / 0.339 | 1.5 / 0.121 | 1.6 / 0.070 | 0.4 / 0.010 | 0 / 0.000 | 31 / 0.508 | 0.0 / 0.000 | 1.0 / 0.028 | 0.0 / 0.000 | 0.0 / 0.000 | 0.00 | 12 | Fe 0.12; $Cr^{+6}$ 0.02; Al 0.10; Cu 0.01; Zn 0.02; $PO_4$ 0.00 (a) | 38[b] | 13 | 23 | 0 | 90 | | USGS |
| June 11 1300 | 5,540 | 62 | 10.0 | 102 | 46.4 | 7.3 | 6.0 / 0.299 | 1.2 / 0.101 | 1.5 / 0.065 | 0.4 / 0.010 | 0 / 0.000 | 29 / 0.475 | | 0.4 / 0.011 | | | 0.01 | | | | 14 | 20 | 0 | 30 | | USGS |
| July 16 1100 | 340 | 70 | 9.0 | 100 | 81.2 | 7.3 | 9.6 / 0.479 | 5.1 / 0.421 | 2.5 / 0.109 | 0.7 / 0.018 | 0 / 0.000 | 45 / 0.736 | | 0.2 / 0.005 | | | 0.00 | | | | 11 | 45 | 0 | 45 | | USGS |
| Aug 13 1030 | 349 | 69 | 8.9 | 98 | 107 | 7.5 | 13 / 0.649 | 3.5 / 0.291 | 2.8 / 0.122 | 0.9 / 0.023 | 0 / 0.000 | 58 / 0.951 | | 0.0 / 0.000 | | | 0.00 | | | | 11 | 47 | 0 | 9 | | USGS |
| Sept 17 1040 | 403 | 69 | 9.0 | 99 | 117 | 7.3 | 14 / 0.699 | 5.1 / 0.421 | 3.7 / 0.161 | 1.0 / 0.026 | 0 / 0.000 | 67 / 1.098 | 7.7 / 0.160 | 0.8 / 0.023 | 0.0 / 0.000 | 0.1 / 0.005 | 0.02 | 17 | Al 0.02; Cu 0.04; $PO_4$ 0.05; (a) | 82[b] | 12 | 56 | 1 | 15 | | USGS |
| Oct 15 1110 | No Record | 62 | 9.9 | 101 | 131 | 7.3 | 16 / 0.798 | 4.2 / 0.342 | 3.7 / 0.161 | 0.7 / 0.018 | 0 / 0.000 | 73 / 1.196 | | 1.3 / 0.037 | | | 0.00 | | | | 12 | 57 | 0 | 2 | | USGS |
| Nov 21 1220 | " | 50 | 11.4 | 101 | 112 | 6.8 | 13 / 0.65 | 4.3 / 0.35 | 2.8 / 0.12 | 0.7 / 0.02 | 0 / 0.00 | 61 / 1.00 | | 1.8 / 0.05 | | | 0.00 | | | | 11 | 50 | 0 | 2 | | USGS |
| Dec 10 1115 | " | 44 | 12.3 | 100 | 115 | 7.3 | 13 / 0.65 | 4.5 / 0.37 | 3.2 / 0.14 | 0.8 / 0.02 | 0 / 0.00 | 66 / 1.08 | | 1.0 / 0.03 | | | 0.04 | | | | 12 | 51 | 0 | 1 | | USGS |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

Note: Flows not published, subject to revision

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

Region 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Yuba River near Smartville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1620 | 791 | 43 | 11.4 | 91 | 91.9 | 7.4 | 12 / 0.599 | 2.6 / 0.211 | 2.4 / 0.104 | 0.4 / 0.010 | 0 / 0.000 | 48 / 0.787 | | 1.5 / 0.042 | | | 0.16 | | | | 11 | 40 | 1 | 9 | | USGS |
| Feb 8 1415 | 571 | 46 | 12.5 | 104 | 93.0 | 7.6 | 11 / 0.549 | 3.5 / 0.291 | 3.0 / 0.130 | 0.5 / 0.013 | 0 / 0.000 | 48 / 0.787 | | 1.5 / 0.042 | | | 0.02 | | | | 13 | 42 | 3 | 5 | | USGS |
| Mar 8 0945 | 580 | 43 | 11.7 | 94 | 96.4 | 7.3 | 12 / 0.599 | 3.4 / 0.281 | 3.2 / 0.139 | 0.6 / 0.015 | 0 / 0.000 | 49 / 0.803 | | 1.5 / 0.042 | | | 0.00 | | | | 13 | 44 | 4 | 3 | | USGS |
| Apr 5 0830 | 560 | 48 | 11.3 | 97 | 83.8 | 7.4 | 7.0 / 0.349 | 4.9 / 0.399 | 2.6 / 0.113 | 0.6 / 0.015 | 0 / 0.000 | 46 / 0.754 | | 0.6 / 0.017 | | | 0.00 | | | | 13 | 37 | 0 | 2 | | USGS |
| May 12 1600 | No Record | 56 | 10.5 | 100 | 61.5 | 7.3 | 7.2 / 0.359 | 2.2 / 0.181 | 2.8 / 0.122 | 0.5 / 0.013 | 0 / 0.000 | 35 / 0.574 | 3.0 / 0.062 | 1.0 / 0.028 | 0.2 / 0.003 | 0.2 / 0.011 | 0.04 | 12 | Fe 0.04; Al 0.06; (a) $PO_4$ 0.00 | 46[b] | 18 | 27 | 0 | 20 | | USGS |
| Jun 16 1510 | 736 | 69 | 9.4 | 104 | 59.6 | 7.5 | 7.2 / 0.359 | 2.7 / 0.221 | 2.2 / 0.096 | 0.5 / 0.013 | 0 / 0.000 | 32 / 0.524 | | 0.0 / 0.000 | | | 0.00 | | | | 14 | 29 | 3 | 0.9 | | USGS |
| Jul 14 1345 | No Record | 71 | 8.5 | 96 | 74.6 | 7.4 | 8.7 / 0.434 | 2.7 / 0.226 | 2.4 / 0.104 | 0.5 / 0.013 | 0 / 0.000 | 42 / 0.688 | | 0.5 / 0.014 | | | 0.01 | | | | 13 | 33 | 0 | 0.6 | | USGS |
| Aug 16 1515 | " | 76 | 8.1 | 96 | 101 | 7.6 | 13 / 0.649 | 3.5 / 0.291 | 3.0 / 0.130 | 0.8 / 0.020 | 0 / 0.000 | 62 / 1.016 | | 1.8 / 0.051 | | | 0.00 | | | | 12 | 47 | 0 | 15 | | [illegible] |
| Sep 15 1500 | 206 | 74 | 9.1 | 105 | 126 | 7.4 | 18 / 0.898 | 2.6 / 0.210 | 3.5 / 0.152 | 0.9 / 0.023 | 0 / 0.000 | 66 / 1.082 | 8.2 / 0.171 | 1.5 / 0.042 | 0.1 / 0.002 | 0.1 / 0.005 | 0.00 | 17 | Zn 0.01; (a) Cu 0.01 | 85[b] | 12 | 55 | 1 | 0.3 | | [illegible] |
| Oct 13 1430 | 266 | 67 | 10.0 | 102 | 136 | 7.2 | 16 / 0.798 | 5.3 / 0.434 | 4.1 / 0.178 | 0.7 / 0.018 | 0 / 0.000 | 72 / 1.180 | | 1.8 / 0.051 | | | 0.03 | | | | 12 | 62 | 3 | 2 | | [illegible] |
| Nov 17 1515 | 618 | 51 | 11.3 | 101 | 136 | 7.3 | 17 / 0.848 | 3.8 / 0.312 | 4.3 / 0.187 | 0.7 / 0.018 | 0 / 0.000 | 70 / 1.147 | | 2.1 / 0.059 | | | 0.00 | | | | 14 | 58 | 1 | 4 | | [illegible] |
| Dec 15 1400 | 710 | 46 | 11.7 | 98 | 103 | 6.8 | 12 / 0.599 | 3.0 / 0.247 | 3.0 / 0.130 | 0.6 / 0.015 | 0 / 0.000 | 55 / 0.901 | | 2.5 / 0.070 | | | 0.03 | | | | 12 | 46 | 1 | 20 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 14
## ANALYSES OF SURFACE WATER

REGION 5

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Yuba River near Smartville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1230 | 31,900 | 48 | 12.7 | 109 | 47.4 | 6.8 | 5.2 / 0.259 | 1.7 / 0.141 | 1.5 / 0.065 | 0.5 / 0.013 | 0 / 0.000 | 26 / 0.426 | | 0.2 / 0.006 | | | 0.03 | | | | 14 | 20 | 0 | 150 | | USGS |
| Feb 6 1410 | 3,779 | 44 | 12.2 | 99 | 61.6 | 6.8 | 8.1 / 0.404 | 1.4 / 0.114 | 2.1 / 0.091 | 0.4 / 0.010 | 0 / 0.000 | 34 / 0.557 | | 0.0 / 0.000 | | | 0.02 | | | | 15 | 26 | 0 | 15 | | USGS |
| Mar 12 1330 | 3,169 | 46 | 12.1 | 101 | 70.3 | 7.1 | 8.1 / 0.404 | 2.3 / 0.192 | 2.3 / 0.100 | 0.3 / 0.008 | 0 / 0.000 | 39 / 0.639 | | 0.0 / 0.000 | | | 0.00 | | | | 14 | 30 | 0 | 9 | | USGS |
| Apr 9 1400 | 3,606 | 53 | 11.1 | 102 | 66.4 | 6.8 | 8.8 / 0.439 | 1.6 / 0.131 | 2.0 / 0.087 | 0.5 / 0.013 | 0 / 0.000 | 40 / 0.656 | | 0.0 / 0.000 | | | 0.01 | | | | 13 | 28 | 0 | 3 | | USGS |
| May 7 1250 | 8,890 | 51 | 11.1 | 99 | 49.7 | 6.8 | 6.4 / 0.319 | 2.0 / 0.161 | 1.7 / 0.074 | 0.5 / 0.013 | 0 / 0.000 | 30 / 0.492 | 3.0 / 0.062 | 0.8 / 0.023 | 0.0 / 0.000 | 0.0 / 0.000 | 0.00 | 12 | Fe 0.07; Al 0.05; Cr+6 0.01; Zn 0.04; $PO_4$ 0.00; (a) | 41[b] | 13 | 24 | 0 | 60 | | USGS |
| June 11 1345 | 5,336 | 59 | 10.3 | 101 | 45.2 | 7.3 | 5.7 / 0.284 | 1.3 / 0.108 | 1.4 / 0.061 | 0.5 / 0.013 | 0 / 0.000 | 28 / 0.459 | | 0.4 / 0.011 | | | 0.02 | | | | 13 | 20 | 0 | 3 | | USGS |
| July 16 1230 | 775 | 68 | 9.1 | 99 | 60.6 | 7.3 | 7.4 / 0.369 | 1.6 / 0.131 | 2.2 / 0.096 | 0.8 / 0.020 | 0 / 0.000 | 37 / 0.606 | | 0.3 / 0.008 | | | 0.00 | | | | 15 | 25 | 0 | 0.7 | | USGS |
| Aug 13 1145 | 772 | 71 | 8.3 | 99 | 92.8 | 7.5 | 13 / 0.649 | 2.1 / 0.171 | 2.6 / 0.113 | 0.9 / 0.023 | 0 / 0.000 | 54 / 0.885 | | 0.0 / 0.000 | | | 0.00 | | | | 12 | 41 | 0 | 0.8 | | USGS |
| Sept 17 1200 | 661 | 72 | 9.4 | 107 | 113 | 6.9 | 14 / 0.699 | 4.1 / 0.341 | 3.3 / 0.144 | 0.7 / 0.018 | 0 / 0.00 | 66 / 1.082 | 3.8 / 0.079 | 1.0 / 0.028 | 0.0 / 0.00 | 0.1 / 0.005 | 0.04 | 18 | Cu 0.02; $PO_4$ 0.0; (a) | | 12 | 52 | 0 | 2 | | USGS |
| Oct 15 1255 | 639 | 65 | 9.9 | 104 | 124 | 7.5 | 16 / 0.798 | 3.4 / 0.282 | 3.7 / 0.161 | 0.9 / 0.023 | 0 / 0.000 | 70 / 1.147 | | 1.2 / 0.034 | | | 0.00 | | | | 13 | 54 | 0 | 0.7 | | USGS |
| Nov 20 1330 | 637 | 51 | 12.4 | 111 | 102 | 6.8 | 12 / 0.60 | 4.1 / 0.34 | 2.8 / 0.12 | 0.7 / 0.02 | 0 / 0.00 | 56 / 0.92 | | 1.8 / 0.05 | | | 0.00 | | | | 11 | 47 | 1 | 5 | | USGS |
| Dec 10 1240 | 645 | 45 | 13.3 | 110 | 107 | 7.7 | 13 / 0.65 | 4.3 / 0.35 | 2.9 / 0.13 | 0.8 / 0.02 | 0 / 0.00 | 63 / 1.03 | | 1.0 / 0.03 | | | 0.09 | | | | 11 | 50 | 0 | 2 | median 2.3 minimum .23 maximum 2400 | USGS |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Lake Tahoe at Tahoe Vista** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 1200 | | 51 | 9.4 | 84 | 95.9 | 7.5 | 8.9 / 0.444 | 2.9 / 0.236 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 58 / 0.951 | 1.8 / 0.037 | 1.2 / 0.034 | 0.2 / 0.003 | 0.1 / 0.005 | 0.07 | 13 | Al 0.02; Zn 0.01; $PO_4$ 0.05; (a) | 65[b] | 26 | 34 | 0 | 1 | | USGS |
| Jun 13 1215 | | 61 | 9.2 | 94 | 95.1 | 7.6 | 9.2 / 0.459 | 2.6 / 0.213 | 6.3 / 0.274 | 1.8 / 0.046 | 0 / 0.000 | 55 / 0.901 | | 2.0 / 0.056 | | | 0.00 | | | | 28 | 34 | 0 | 0.2 | | USGS |
| Jul 11 1230 | | 61 | 9.0 | 90 | 93.6 | 7.0 | 9.3 / 0.464 | 2.4 / 0.196 | 6.1 / 0.265 | 1.9 / 0.049 | 0 / 0.000 | 54 / 0.885 | | 2.2 / 0.062 | | | 0.04 | | | | 27 | 33 | 0 | 0.3 | | USGS |
| Aug 15 1330 | | 67 | 8.0 | 86 | 94.0 | 7.4 | 9.2 / 0.459 | 3.4 / 0.281 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 57 / 0.934 | | 2.2 / 0.062 | | | 0.05 | | | | 25 | 37 | 0 | 6 | | USGS |
| Sep 12 1350 | | 69 | 8.3 | 91 | 92.8 | 7.7 | 9.2 / 0.459 | 2.2 / 0.181 | 6.0 / 0.261 | 1.6 / 0.041 | 0 / 0.000 | 54 / 0.885 | 2.0 / 0.042 | 1.8 / 0.051 | 0.2 / 0.003 | 0.0 / 0.000 | 0.06 | 13 | Al 0.01; (a) | 63[b] | 28 | 32 | 0 | 0.2 | | USGS |
| Oct 10 1330 | | 54 | 8.6 | 80 | 96.6 | 7.2 | 3.6 / 0.429 | 2.8 / 0.231 | 6.0 / 0.261 | 1.9 / 0.049 | 0 / 0.000 | 56 / 0.918 | | 1.7 / 0.048 | | | 0.05 | | | | 27 | 33 | 0 | 1.0 | | USGS |
| Nov 14 1530 | | 43 | 10.0 | 80 | 97.0 | 6.8 | 9.3 / 0.464 | 2.6 / 0.216 | 6.8 / 0.296 | 1.8 / 0.046 | 0 / 0.000 | 57 / 0.934 | | 0.8 / 0.023 | | | 0.01 | | | | 29 | 34 | 0 | 0.7 | | USGS |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .22 minimum .045- maximum 130 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Lake Tahoe at Tahoe Vista** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 11 0830 | | 45 | 10.0 | 83 | 91.7 | 6.8 | 8.8 / 0.439 | 3.2 / 0.261 | 6.3 / 0.274 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | 2.0 / 0.042 | 2.2 / 0.062 | 0.0 / 0.000 | 0.1 / 0.005 | 0.01 | 13 | Al 0.01; Cu 0.01; (a) $PO_4$ 0.00 | 65[b] | 27 | 35 | 0 | 0.4 | | USGS |
| June 15 0715 | | 50 | 8.9 | 78 | 92.3 | 7.9 | 10 / 0.499 | 2.0 / 0.161 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 0.2 / 0.006 | | | 0.05 | | | | 27 | 33 | 0 | 0.5 | | USGS |
| July 20 0930 | | 66 | 7.9 | 85 | 91.7 | 7.7 | 10 / 0.499 | 1.8 / 0.145 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 0.5 / 0.014 | | | 0.06 | | | | 27 | 32 | 0 | 2 | | USGS |
| Aug 16 1430 | | 67 | 8.0 | 87 | 93.1 | 7.9 | 8.8 / 0.439 | 2.7 / 0.221 | 6.1 / 0.265 | 1.3 / 0.046 | 0 / 0.000 | 57 / 0.934 | | 1.3 / 0.037 | | | 0.00 | | | | 27 | 33 | 0 | 0.1 | | USGS |
| Sept 21 1045 | | 61 | 8.4 | 85 | 93.2 | 6.9 | 9.6 / 0.479 | 2.1 / 0.169 | 6.1 / 0.265 | 1.9 / 0.049 | 0 / 0.000 | 56 / 0.918 | 0.0 / 0.000 | 1.3 / 0.037 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 14 | (a) | 63 | 28 | 32 | 0 | 2 | | USGS |
| Oct 18 1520 | | 55 | 8.5 | 80 | 93.7 | 7.5 | 9.4 / 0.47 | 2.6 / 0.21 | 5.9 / 0.26 | 1.6 / 0.04 | 0 / 0.00 | 56 / 0.92 | | 2.3 / 0.06 | | | 0.07 | | | | 27 | 34 | 0 | 0.4 | | USGS |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median .34 minimum .045 – maximum 62 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Lake Tahoe at Tahoe City | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 1300 | | 57 | 9.7 | 93 | 95.3 | 7.8 | 11 / 0.549 | 1.6 / 0.131 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 54 / 0.885 | 4.1 / 0.085 | 1.2 / 0.034 | 0.5 / 0.008 | 0.1 / 0.005 | 0.06 | 11 | Al 0.03; Zn 0.05; $PO_4$ 0.00; (a) | 64[b] | 26 | 34 | 0 | 1 | | USGS |
| Jun 13 1350 | | 60 | 9.0 | 90 | 94.7 | 7.4 | 9.6 / 0.479 | 2.1 / 0.173 | 6.0 / 0.261 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 2.0 / 0.056 | | | 0.00 | | | | 27 | 33 | 0 | 0.0 | | USGS |
| Jul 11 1300 | | 60 | 8.5 | 85 | 93.6 | 7.3 | 9.8 / 0.489 | 2.1 / 0.171 | 5.6 / 0.244 | 1.8 / 0.046 | 0 / 0.000 | 55 / 0.901 | | 1.0 / 0.028 | | | 0.07 | | | | 26 | 33 | 0 | 0.3 | | USGS |
| Aug 15 1415 | | 67 | 8.2 | 89 | 94.2 | 7.6 | 9.2 / 0.459 | 2.7 / 0.221 | 6.1 / 0.265 | 1.8 / 0.046 | 0 / 0.000 | 55 / 0.901 | | 2.5 / 0.071 | | | 0.00 | | | | 27 | 34 | 0 | 6 | | USGS |
| Sep 12 1440 | | 68 | 8.1 | 83 | 92.8 | 6.8 | 9.4 / 0.469 | 2.1 / 0.171 | 6.0 / 0.261 | 1.7 / 0.043 | 0 / 0.000 | 54 / 0.885 | 0.0 / 0.000 | 1.5 / 0.042 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 14 | Al 0.01; (a) | 62[b] | 28 | 32 | 0 | 0.3 | | USGS |
| Oct 10 1145 | | 53 | 9.2 | 84 | 94.7 | 7.0 | 8.3 / 0.414 | 2.7 / 0.226 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 52 / 0.852 | | 1.2 / 0.034 | | | 0.04 | | | | 27 | 32 | 0 | 2 | | USGS |
| Nov 14 1610 | | 40 | 10.0 | 77 | 92.7 | 7.2 | 9.2 / 0.459 | 1.9 / 0.157 | 5.8 / 0.252 | 1.8 / 0.046 | 0 / 0.000 | 50 / 0.820 | | 0.1 / 0.002 | | | 0.00 | | | | 28 | 31 | 0 | 2 | | USGS |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .14 minimum .045- maximum 6.2 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Lake Tahoe at Tahoe City | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 1515 | | 48 | 10.0 | 86 | 91.4 | 6.8 | 8.9 / 0.444 | 2.9 / 0.236 | 6.1 / 0.265 | 1.7 / 0.043 | 0 / 0.000 | 56 / 0.918 | 2.0 / 0.042 | 1.8 / 0.051 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 12 | Al 0.02; Cu 0.01; (a) $PO_4$ 0.00 | 64[b] | 27 | 34 | 0 | 0.7 | | USGS |
| June 14 1500 | | 50 | 9.2 | 81 | 92.1 | 7.3 | 10 / 0.499 | 2.0 / 0.161 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 1.0 / 0.028 | | | 0.06 | | | | 27 | 33 | 0 | 0.6 | | USGS |
| July 19 1340 | | 67 | 7.5 | 81 | 91.8 | 7.5 | 10 / 0.499 | 1.8 / 0.145 | 5.8 / 0.252 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 0.7 / 0.020 | | | 0.04 | | | | 27 | 32 | 0 | 1 | | USGS |
| Aug 16 1400 | | 65 | 8.2 | 87 | 91.6 | 7.4 | 8.9 / 0.444 | 2.4 / 0.198 | 6.0 / 0.261 | 1.8 / 0.046 | 0 / 0.000 | 55 / 0.901 | | 1.5 / 0.042 | | | 0.00 | | | | 28 | 32 | 0 | 0.2 | | USGS |
| Sept 20 1420 | | 61 | 8.8 | 89 | 112 | 6.9 | 10 / 0.499 | 2.7 / 0.221 | 9.8 / 0.426 | 1.9 / 0.049 | 7 / 0.233 | 55 / 0.901 | 0.0 / 0.000 | 1.7 / 0.048 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 35 | As 0.01; (a) | 95[b] | 36 | 36 | 0 | 0.4 | | USGS |
| Oct 18 1445 | | 55 | 8.7 | 82 | 92.5 | 7.7 | 9.3 / 0.46 | 2.9 / 0.24 | 5.6 / 0.24 | 1.7 / 0.04 | 0 / 0.00 | 56 / 0.92 | | 1.7 / 0.05 | | | 0.05 | | | | 24 | 35 | 0 | 0.3 | | USGS |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median .42 minimum .045 - maximum 23 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Lake Tahoe at Bijou | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 1230 | | 61 | 9.3 | 83 | 99.2 | 7.5 | 9.2 / 0.464 | 2.4 / 0.197 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 54 / 0.885 | 2.1 / 0.044 | 1.0 / 0.028 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 13 | Fe 0.005; Al 0.005; Mn 0.01; (a) $PO_4$ 0.00 | 63[b] | 27 | 33 | 0 | 1 | | [illegible] |
| Jun 13 1015 | | 65 | 7.9 | 82 | 99.2 | 7.4 | 9.2 / 0.459 | 1.6 / 0.135 | 6.2 / 0.265 | 1.7 / 0.043 | 0 / 0.000 | 56 / 0.919 | | 1.0 / 0.028 | | | 0.00 | | | | 29 | 30 | 0 | 0.7 | | [illegible] |
| Jul 11 1030 | | 62 | 7.9 | 79 | 100 | 7.4 | 9.8 / 0.489 | 1.8 / 0.151 | 6.7 / 0.291 | 2.1 / 0.054 | 0 / 0.000 | 56 / 0.918 | | 2.0 / 0.056 | | | 0.05 | | | | 30 | 32 | 0 | 1 | | [illegible] |
| Aug 15 1145 | | 66 | 8.0 | 85 | 97.0 | 7.4 | 9.6 / 0.479 | 3.2 / 0.261 | 6.2 / 0.270 | 1.9 / 0.049 | 0 / 0.000 | 56 / 0.918 | | 3.2 / 0.090 | | | 0.00 | | | | 25 | 37 | 0 | 20 | | [illegible] |
| Sep 12 1200 | | 65 | 7.3 | 77 | 93.0 | 7.5 | 9.7 / 0.484 | 1.7 / 0.138 | 6.0 / 0.261 | 1.7 / 0.043 | 0 / 0.000 | 55 / 0.901 | 0.0 / 0.000 | 1.5 / 0.042 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 14 | Al 0.05; Cu 0.01; Zn 0.01; (a) | 62[b] | 28 | 31 | 0 | 0.3 | | [illegible] |
| Oct 10 1010 | | 53 | 8.2 | 75 | 91.0 | 7.2 | 8.9 / 0.444 | 2.8 / 0.232 | 5.8 / 0.252 | 1.8 / 0.046 | 0 / 0.000 | 57 / 0.934 | | 1.7 / 0.048 | | | 0.25 | | | | 26 | 34 | 0 | 0.5 | | [illegible] |
| Nov 14 1400 | | 34 | 11.4 | 88 | 93.3 | 7.2 | 9.4 / 0.469 | 1.9 / 0.161 | 5.9 / 0.257 | 1.7 / 0.043 | 0 / 0.000 | 53 / 0.869 | | 0.4 / 0.011 | | | 0.00 | | | | 28 | 31 | 0 | 9 | | [illegible] |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .045– | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 6.2 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp. in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Lake Tahoe at Bijou | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 11 1000 | | 46 | 9.9 | 83 | 84.6 | 6.8 | 8.4 / 0.419 | 2.4 / 0.201 | 5.6 / 0.244 | 1.9 / 0.049 | 0 / 0.000 | 52 / 0.852 | 1.0 / 0.021 | 1.9 / 0.054 | 0.0 / 0.000 | 0.1 / 0.005 | 0.05 | 12 | Cu 0.02; (a) $PO_4$ 0.00 | 59[b] | 27 | 31 | 0 | 0.6 | | USGS |
| June 15 1020 | | 54 | 8.5 | 79 | 89.3 | 7.3 | 9.2 / 0.459 | 2.0 / 0.161 | 5.8 / 0.252 | 1.8 / 0.046 | 0 / 0.000 | 53 / 0.869 | | 1.0 / 0.028 | | | 0.00 | | | | 27 | 31 | 0 | 0.6 | | USGS |
| July 20 0730 | | 67 | 7.7 | 83 | 90.2 | 7.5 | 9.3 / 0.464 | 2.2 / 0.184 | 6.0 / 0.261 | 1.8 / 0.046 | 0 / 0.000 | 54 / 0.885 | | 1.5 / 0.042 | | | 0.14 | | | | 27 | 32 | 0 | 0.4 | | USGS |
| Aug 17 0810 | | 64 | 7.4 | 77 | 90.8 | 7.5 | 8.5 / 0.424 | 2.6 / 0.216 | 6.0 / 0.261 | 1.8 / 0.046 | 0 / 0.000 | 55 / 0.901 | | 1.3 / 0.037 | | | 0.00 | | | | 28 | 32 | 0 | 0.2 | | USGS |
| Sept 21 1200 | | 61 | 8.3 | 84 | 91.3 | 6.9 | 8.8 / 0.439 | 2.2 / 0.181 | 6.1 / 0.265 | 1.8 / 0.046 | 0 / 0.000 | 55 / 0.901 | 0.0 / 0.000 | 1.5 / 0.042 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 14 | Al 0.03; (a) | 62[b] | 28 | 31 | 0 | 0.3 | | USGS |
| Oct 19 0830 | | 50 | 8.3 | 73 | 95.1 | 7.5 | 9.6 / 0.48 | 2.4 / 0.20 | 6.1 / 0.27 | 1.7 / 0.04 | 0 / 0.00 | 57 / 0.93 | | 2.4 / 0.07 | | | 0.01 | | | | 27 | 34 | 0 | 0.2 | | USGS |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median .42 minimum .06 maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Mojave River near Victorville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1745 | 57 | 46 | 10.8 | 90 | 408 | 8.0 | | | | | 0/0.00 | 185/3.03 | | 23/0.64 | | | 0.02 | | | | 34 | 133 | | 5- | | DWR |
| Feb 8 1345 | 45 | 50 | 10.0 | 88 | 377 | 8.4 | | | | | 5/0.17 | 149/2.44 | | 24/0.67 | | | 0.04 | | | | 35 | 135 | | 5- | | DWR |
| Mar 8 1815 | Est 40 | 59 | 9.2 | 91 | 474 | 8.2 | | | | | 10/0.33 | 146/2.39 | | 33/0.93 | | | 0.10 | | | | 35 | 147 | | 5- | | DWR |
| Apr 4 1730 | Est 30 | 57 | 9.6 | 87 | 461 | 8.2 | | | | | 0/0.00 | 173/2.84 | | 31/0.87 | | | 0.08 | | | | 37 | 143 | | 5- | | DWR |
| May 9 1740 | 27 | 68 | 8.4 | 92 | 412 | 8.4 | 36/1.80 | 13/1.07 | 41/1.78 | 2.3/0.06 | 6/0.00 | 185/3.04 | 40/0.83 | 30/0.85 | 1.0/0.02 | 0.5/0.03 | 0.08 | 25 | | 260 | 38 | 144 | 0 | 5- | | DWR |
| Jun 7 1715 | 19 | 69 | 8.0 | 76 | 476 | 8.2 | | | | | 5/0.17 | 171/2.80 | | 31/0.87 | | | 0.06 | | | | 36 | 145 | | 5- | | DWR |
| Jul 11 1810 | 17 | 72 | 7.6 | 81 | 481 | 8.3 | | | | | 2/0.07 | 163/2.67 | | 33/0.93 | | | 0.06 | | | | 35 | 148 | | 5- | | DWR |
| Aug 10 1800 | 16 | 77 | 6.8 | 81 | 416 | 8.1 | | | | | | 159/2.61 | | 33/0.93 | | | 0.0 | | | | 34 | 143 | | 6 | | DWR |
| Sep 13 1745 | 18 | 73 | 7.8 | 90 | 459 | 8.2 | 43/2.15 | 7.9/0.65 | 38/1.65 | 2.2/0.056 | 0/0.00 | 166/2.72 | 45/0.94 | 32/0.90 | 0.5/0.008 | 0.4/0.021 | 0.02 | 20 | | 276 | 37 | 140 | 4 | 5- | | DWR |
| Oct 10 1235 | 26 | 73 | 7.4 | 85 | 454 | 8.0 | | | | | | 166/2.72 | | 32/0.90 | | | 0.16 | | | | 37 | 141 | | 5- | | DWR |
| Nov 7 1700 | 30 | 59 | 8.0 | 79 | 456 | 8.0 | | | | | 0/0.00 | 178/2.92 | | 33/0.93 | | | 0.16 | | | | 35 | 145 | | 5- | | DWR |
| Dec 12 1300 | 35 | 57 | 9.2 | 89 | 440 | 8.2 | | | | | 0/0.00 | 163/2.67 | | 30/0.85 | | | 0 | | | | 34 | 145 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 18 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.5 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Mojave River near Victorville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1730 | 39 | 52 | 8.6 | 78 | 520 | 8.0 | | | | | 5 / 0.17 | 156 / 2.56 | | 31 / 0.87 | | | 0.05 | | | | 34 | 137 | | -5 | | DWR |
| Feb 15 1830 | 42 | 50 | 8.8 | 78 | 432 | 8.0 | | | | | 0 / 0.00 | 159 / 2.61 | | 28 / 0.79 | | | 0.14 | | | | 34 | 137 | | -5 | | DWR |
| Mar 6 1730 | 32 | 50 | 9.0 | 79 | 476 | 8.1 | | | | | 0 / 0.00 | 173 / 2.84 | | 34 / 0.96 | | | 0.33 | | | | 35 | 149 | | -5 | | DWR |
| Apr 11 0900 | 34 | 52 | 10.0 | 90 | 467 | 8.0 | | | | | 0 / 0.00 | 173 / 2.84 | | 35 / 0.99 | | | 0.20 | | | | 32 | 149 | | -5 | | DWR |
| May 15 1030 | 26 | 70 | 8.5 | 96 | 461 | 8.0 | 36 / 1.80 | 15 / 1.23 | 38 / 1.65 | 2.6 / 0.067 | 0.0 / 0.00 | 176 / 2.88 | 45 / 0.93 | 33 / 0.93 | 1.75 / 0.028 | 0.5 / 0.026 | 0.06 | 20 | $PO_4$ 0.1; (a) | 280[b] | 35 | 152 | 8 | -5 | | DWR |
| June 12 1730 | 18 | 77 | 6.4 | 77 | 464 | 8.1 | | | | | 0 / 0.00 | 181 / 2.97 | | 33 / 0.93 | | | 0.07 | | | | 34 | 147 | | -5 | | DWR |
| July 10 1700 | 13 | 81 | 7.6 | 94 | 491 | 8.1 | | | | | 0 / 0.00 | 185 / 3.03 | | 36 / 1.02 | | | 0.03 | | | | 35 | 168 | | -5 | | DWR |
| Aug 7 1705 | 17 | 81 | 7.2 | 89 | 489 | 8.0 | | | | | 0 / 0.00 | 185 / 3.03 | | 35 / 0.99 | | | 0.00 | | | | 36 | 156 | | -5 | | DWR |
| Sept 13 0900 | 18 | 64 | 8.2 | 86 | 480 | 7.8 | 44 / 2.20 | 11 / 0.90 | 40 / 1.74 | 1.6 / 0.041 | 0 / 0.00 | 188 / 3.08 | 47 / 0.97 | 34 / 0.96 | 1.0 / 0.016 | 0.5 / 0.026 | 0.05 | 25 | PO 0.16; (a) | 312 | 36 | 155 | 1 | -5 | | DWR |
| Oct 10 1300 | 21 | 72 | 7.4 | 84 | 485 | 7.9 | | | | | 0 / 0.00 | 173 / 2.84 | | 34 / 0.96 | | | 0.10 | | | | 35 | 158 | | -5 | | DWR |
| Nov 9 1050 | 28 | 60 | 7.0 | 70 | 467 | 8.3 | | | | | 0 / 0.00 | 188 / 3.08 | | 32 / 0.90 | | | 0.09 | | | | 36 | 152 | | 7 | | DWR |
| Dec 11 1800 | 35 | 54 | 8.8 | 81 | 446 | 8.0 | | | | | 0 / 0.00 | 181 / 2.97 | | 30 / 0.85 | | | 0.10 | | | | 35 | 147 | | -5 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 14.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .45 - | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Susan River at Susanville** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1965 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 1530 | 106 | 55 | 9.6 | 90 | 94. | 7.5 | 11 / 0.549 | 3.1 / 0.251 | 3.8 / 0.165 | 1.1 / 0.028 | 0 / 0.000 | 58 / 0.951 | 1.6 / 0.033 | 0.8 / 0.023 | 0.4 / 0.006 | 0.2 / 0.011 | 0.00 | 23 | Fe 0.2; Al 0.2; $PO_4$ 0.05; (a) | 74[b] | 17 | 40 | 0 | 3 | | [illegible] |
| Jun 14 1420 | 24 | 62 | 7.9 | 80 | 126 | 7.7 | 13 / 0.649 | 4.9 / 0.401 | 4.0 / 0.200 | 1.4 / 0.036 | 0 / 0.000 | 78 / 1.278 | | 0.1 / 0.003 | | | 0.01 | | | | 16 | 52 | 0 | 0.8 | | [illegible] |
| Jul 12 1540 | 5.6 | 73 | 7.3 | 84 | 163 | 7.4 | 15 / 0.749 | 8.9 / 0.731 | 6.0 / 0.261 | 2.0 / 0.051 | 0 / 0.000 | 105 / 1.721 | | 0.0 / 0.000 | | | 0.00 | | | | 15 | 74 | 0 | 0.8 | | [illegible] |
| Aug 16 1400 | 2.6 | 71 | 8.0 | 90 | 198 | 7.8 | 10 / 0.499 | 16 / 1.301 | 6.8 / 0.296 | 2.5 / 0.064 | 0 / 0.000 | 132 / 2.163 | | 0.5 / 0.014 | | | 0.00 | | | | 14 | 90 | 0 | 2 | | [illegible] |
| Sep 13 1415 | 3.1 | 62 | 8.4 | 86 | 192 | 7.6 | 18 / 0.898 | 10 / 0.822 | 5.8 / 0.252 | 2.7 / 0.069 | 0 / 0.000 | 126 / 2.065 | 0.0 / 0.000 | 0.0 / 0.000 | 0.2 / 0.003 | 0.0 / 0.000 | 0.00 | 41 | Fe 0.10; Al 0.02; (a) Cu 0.01 | 140[b] | 12 | 86 | 0 | 1 | | [illegible] |
| Oct 11 1300 | 5.5 | 49 | 9.5 | 83 | 178 | 7.4 | 17 / 0.848 | 8.9 / 0.736 | 6.2 / 0.270 | 2.5 / 0.064 | 0 / 0.000 | 116 / 1.901 | | 0.3 / 0.008 | | | 0.00 | | | | 14 | 79 | 0 | 3 | | [illegible] |
| Nov 15 1445 | 6.2 | 35 | 11.1 | 80 | 178 | 6.8 | 17 / 0.848 | 8.7 / 0.712 | 6.0 / 0.261 | 2.1 / 0.054 | 0 / 0.000 | 113 / 1.852 | | 0.0 / 0.000 | | | 0.00 | | | | 14 | 78 | 0 | 5 | | [illegible] |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 22 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Susan River at Susanville. | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 0830 | 798 | 44 | 11.4 | 93 | 55.5 | 6.8 | 6.4 / 0.319 | 2.4 / 0.201 | 2.4 / 0.104 | 0.6 / 0.015 | 0 / 0.000 | 36 / 0.590 | 2.0 / 0.042 | 0.8 / 0.023 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 17 | Fe 0.04; Cu 0.01; (a) $PO_4$ 0.00 | 50[b] | 16 | 26 | 0 | 10 | | USGS |
| June 13 1415 | 131 | 61 | 8.1 | 81 | 77.4 | 7.4* | 8.7 / 0.434 | 2.9 / 0.240 | 2.8 / 0.122 | 0.9 / 0.023 | 0 / 0.000 | 51 / 0.836 | | 0.4 / 0.011 | | | 0.05 | | | | 15 | 34 | 0 | 2 | | USGS |
| July 18 1515 | 104 | 72 | 7.7 | 88 | 67.0 | 7.7 | 6.6 / 0.329 | 3.3 / 0.271 | 2.6 / 0.113 | 0.9 / 0.023 | 0 / 0.000 | 44 / 0.721 | | 0.1 / 0.003 | | | 0.01 | | | | 16 | 30 | 0 | 2 | | USGS |
| Aug 15 1450 | 54 | 68 | 8.0 | 88 | 75.0 | 7.5 | 8.2 / 0.409 | 3.3 / 0.271 | 2.6 / 0.113 | 0.9 / 0.023 | 0 / 0.000 | 50 / 0.820 | | 0.0 / 0.000 | | | 0.00 | | | | 14 | 34 | 0 | 3 | | USGS |
| Sept 19 1440 | 30 | 53 | 8.8 | 86 | 149 | 7.0 | 14 / 0.699 | 8.2 / 0.681 | 5.4 / 0.235 | 2.1 / 0.054 | 0 / 0.000 | 98 / 1.606 | 2.9 / 0.060 | 0.2 / 0.006 | 0.0 / 0.000 | 0.1 / 0.005 | 0.02 | 37 | Fe 0.06; Cu 0.05; Zn 0.03; $PO_4$ 0.05; (a) | 118[b] | 14 | 69 | 0 | 5 | | USGS |
| Oct 17 1515 | 13 | 48 | 10.2 | 88 | 154 | 7.7 | 15 / 0.748 | 7.4 / 0.612 | 5.8 / 0.252 | 2.0 / 0.051 | 0 / 0.000 | 101 / 1.655 | | 0.2 / 0.006 | | | 0.00 | | | | 15 | 68 | 0 | 1.0 | | USGS |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median 13.6 minimum .23 maximum 230 | |

*Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Truckee River near Truckee** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 1400 | 251 | 55 | 9.5 | 87 | 63.7 | 7.3 | 7.4 / 0.369 | 1.8 / 0.151 | 2.8 / 0.122 | 0.8 / 0.020 | 0 / 0.000 | 32 / 0.524 | 4.9 / 0.102 | 0.5 / 0.014 | 0.6 / 0.010 | 0.1 / 0.005 | 0.07 | 17 | Al 0.04; Zn 0.02; $PO_4$ 0.00; (a) | 52[b] | 18 | 26 | 0 | 1 | | USGS |
| Jun 13 1330 | 218 | 52 | 9.0 | 82 | 47.2 | 7.4 | 5.9 / 0.294 | 1.0 / 0.082 | 2.4 / 0.104 | 0.6 / 0.015 | 0 / 0.000 | 26 / 0.426 | | 0.0 / 0.000 | | | 0.00 | | | | 21 | 19 | 0 | 0.7 | | USGS |
| Jul 11 1400 | 420 | 62 | 8.4 | 85 | 91.9 | 7.4 | 9.5 / 0.474 | 2.5 / 0.206 | 5.9 / 0.257 | 1.5 / 0.038 | 0 / 0.000 | 55 / 0.901 | | 2.2 / 0.062 | | | 0.02 | | | | 26 | 34 | 0 | 1 | | USGS |
| Aug 15 1540 | 431 | 68 | 8.2 | 90 | 97.1 | 7.4 | 9.2 / 0.457 | 3.7 / 0.301 | 5.9 / 0.257 | 1.7 / 0.043 | 0 / 0.000 | 56 / 0.918 | | 2.2 / 0.062 | | | 0.00 | | | | 24 | 38 | 0 | 15 | | USGS |
| Sep 12 1530 | 455 | 67 | 7.5 | 81 | 95.2 | 7.4 | 9.0 / 0.449 | 2.6 / 0.211 | 5.7 / 0.248 | 1.6 / 0.041 | 0 / 0.000 | 55 / 0.901 | 1.0 / 0.021 | 1.5 / 0.042 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 13 | Al 0.05; Zn 0.02; (a) | 62[b] | 26 | 33 | 0 | 0.7 | | USGS |
| Oct 10 1415 | 224 | 54 | 9.0 | 84 | 96.4 | 7.4 | 9.1 / 0.454 | 2.5 / 0.206 | 5.7 / 0.248 | 1.3 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 1.2 / 0.034 | | | 0.00 | | | | 26 | 33 | 0 | 2 | | USGS |
| Nov 14 1715 | 146 | 39 | 9.9 | 75 | 97.6 | 7.0 | 9.8 / 0.489 | 2.3 / 0.191 | 6.1 / 0.265 | 1.8 / 0.046 | 0 / 0.000 | 55 / 0.901 | | 3.0 / 0.085 | | | 0.08 | | | | 27 | 34 | 0 | 6 | | USGS |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .96 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .045- | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 23 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Truckee River near Truckee** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 1430 | 316 | 44 | 10.0 | 81 | 64.3 | 6.8 | 6.8 / 0.339 | 2.1 / 0.173 | 2.8 / 0.122 | 0.8 / 0.020 | 0 / 0.000 | 36 / 0.590 | 2.0 / 0.042 | 0.5 / 0.014 | 0.0 / 0.000 | 0.1 / 0.005 | 0.01 | 19 | Al 0.07; Cu 0.01; Zn 0.09; (a) $PO_4$ 0.00 | 52[b] | 19 | 26 | 0 | 2 | | USGS |
| June 14 1425 | 387 | 46 | 9.2 | 77 | 53.4 | 7.3 | 6.9 / 0.344 | 0.9 / 0.078 | 2.4 / 0.104 | 0.9 / 0.023 | 0 / 0.000 | 33 / 0.541 | | 0.0 / 0.000 | | | 0.05 | | | | 19 | 21 | 0 | 2 | | USGS |
| July 19 1300 | 114 | 62 | 8.4 | 86 | 65.7 | 7.7 | 6.5 / 0.324 | 2.1 / 0.176 | 3.8 / 0.165 | 1.2 / 0.031 | 0 / 0.000 | 39 / 0.639 | | 0.4 / 0.011 | | | 0.00 | | | | 24 | 25 | 0 | 0.4 | | USGS |
| Aug 16 1310 | 96 | 63 | 8.0 | 93 | 96.3 | 7.7 | 9.3 / 0.464 | 2.7 / 0.218 | 5.9 / 0.257 | 1.3 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 1.5 / 0.042 | | | 0.00 | | | | 26 | 34 | 0 | 0.2 | | USGS |
| Sept 20 1330 | 86 | 58 | 9.5 | 93 | 102 | 6.9 | 10 / 0.499 | 2.9 / 0.241 | 6.5 / 0.283 | 2.0 / 0.051 | 0 / 0.000 | 59 / 0.967 | 3.8 / 0.079 | 2.0 / 0.056 | 0.0 / 0.000 | 0.1 / 0.005 | 0.05 | 16 | Fe 0.01; Al 0.06; Cu 0.01; Zn 0.07; $PO_4$ 0.05; (a) | 72[b] | 26 | 37 | 0 | 0.8 | | USGS |
| Oct 18 1405 | 325 | 55 | 9.0 | 84 | 94.3 | 7.7 | 9.6 / 0.479 | 2.0 / 0.165 | 6.2 / 0.270 | 1.8 / 0.046 | 0 / 0.000 | 57 / 0.934 | | 1.0 / 0.028 | | | 0.00 | | | | 28 | 32 | 0 | 0.8 | | USGS |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median .96 | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | minimum .13 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 21 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Truckee River near Farad | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 9 1530 | 709 | 49 | 9.2 | 80 | 65.2 | 7.4 | 7.2 / 0.359 | 1.7 / 0.141 | 3.2 / 0.139 | 0.8 / 0.020 | 0 / 0.000 | 36 / 0.590 | 3.0 / 0.062 | 1.0 / 0.028 | 0.3 / 0.005 | 0.2 / 0.011 | 0.00 | 17 | Fe 0.01; Al 0.02; $PO_4$ 0.05; (a) | 52[b] | 21 | 25 | 0 | 5 | | USGS |
| Jun 14 0900 | 928 | 55 | 9.0 | 84 | 49.2 | 7.4 | 5.3 / 0.264 | 1.4 / 0.116 | 2.9 / 0.126 | 1.0 / 0.026 | 0 / 0.000 | 28 / 0.459 | | 0.3 / 0.008 | | | 0.00 | | | | 24 | 19 | 0 | 0.8 | | USGS |
| Jul 12 1000 | 507 | 59 | 9.0 | 88 | 94.1 | 7.4 | 8.9 / 0.444 | 3.4 / 0.276 | 5.7 / 0.248 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 2.0 / 0.056 | | | 0.02 | | | | 24 | 36 | 0 | 2 | | USGS |
| Aug 16 0910 | 507 | 60 | 8.4 | 84 | 94.2 | 7.4 | 9.6 / 0.479 | 3.2 / 0.261 | 5.9 / 0.257 | 1.8 / 0.046 | 0 / 0.000 | 57 / 0.934 | | 2.2 / 0.062 | | | 0.06 | | | | 25 | 37 | 0 | 25 | | USGS |
| Sep 13 0845 | 493 | 59 | 8.2 | 81 | 99.7 | 7.2 | 9.4 / 0.469 | 2.7 / 0.221 | 5.9 / 0.257 | 1.9 / 0.049 | 0 / 0.000 | 57 / 0.934 | 2.0 / 0.042 | 1.8 / 0.051 | 0.1 / 0.002 | 0.0 / 0.000 | 0.00 | 15 | Al 0.01; (a) | 67[b] | 26 | 34 | 0 | 0.8 | | USGS |
| Oct 19 1500 | 359 | 51 | 9.1 | 81 | 104 | 7.2 | 9.9 / 0.494 | 2.9 / 0.242 | 6.0 / 0.261 | 1.8 / 0.046 | 0 / 0.000 | 56 / 0.918 | | 2.0 / 0.056 | | | 0.00 | | | | 25 | 37 | 0 | 1.0 | | USGS |
| Nov 15 0915 | | 34 | 10.7 | 75 | 98.3 | | 9.6 / 0.479 | 2.8 / 0.229 | 5.6 / 0.244 | 1.6 / 0.041 | 0 / 0.000 | 55 / 0.901 | | 1.0 / 0.028 | | | 0.04 | | | | 25 | 35 | 0 | 2 | | USGS |
| Dec | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 5.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .06 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 15
## ANALYSES OF SURFACE WATER

REGION 6

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Truckee River near Farad | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | Not sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 10 1340 | 2,088 | 44 | 10.1 | 82 | 62.3 | 6.9 | 6.9 / 0.344 | 2.4 / 0.196 | 3.1 / 0.135 | 0.9 / 0.023 | 0 / 0.000 | 38 / 0.623 | 2.0 / 0.042 | 0.5 / 0.014 | 0.0 / 0.000 | 0.1 / 0.005 | 0.00 | 21 | Al 0.08; Cu 0.01; Zn 0.01; (a) $PO_4$ 0.00 | 56[b] | 19 | 27 | 0 | 4 | | USGS |
| June 14 1330 | 1,197 | 46 | 9.5 | 80 | 53.9 | 7.3 | 6.8 / 0.339 | 1.0 / 0.083 | 2.6 / 0.113 | 1.0 / 0.026 | 0 / 0.000 | 34 / 0.557 | | 0.0 / 0.000 | | | 0.06 | | | | 20 | 21 | 0 | 8 | | USGS |
| July 19 1140 | 515 | 61 | 8.5 | 86 | 66.1 | 7.5 | 6.4 / 0.319 | 2.3 / 0.189 | 3.4 / 0.148 | 1.2 / 0.031 | 0 / 0.000 | 41 / 0.672 | | 0.5 / 0.014 | | | 0.09 | | | | 22 | 25 | 0 | 0.8 | | USGS |
| Aug 16 1220 | 539 | 58 | 8.8 | 86 | 71.1 | 7.7 | 7.3 / 0.364 | 2.3 / 0.186 | 3.3 / 0.144 | 1.2 / 0.031 | 0 / 0.000 | 43 / 0.705 | | 0.5 / 0.014 | | | 0.00 | | | | 20 | 28 | 0 | 0.4 | | USGS |
| Sept 28 1240 | 531 | 60 | 9.1 | 91 | 82.2 | 6.8 | 8.8 / 0.439 | 2.4 / 0.201 | 4.1 / 0.178 | 1.4 / 0.036 | 0 / 0.000 | 49 / 0.803 | 1.0 / 0.021 | 2.0 / 0.056 | 0.1 / 0.002 | 0.1 / 0.005 | 0.00 | 20 | Fe 0.06; Al 0.08; Cu 0.02; Zn 0.32; $PO_4$ 0.05; (a) | 64[b] | 21 | 32 | 0 | 5 | | USGS |
| Oct 18 1315 | 556 | 49 | 9.7 | 85 | 94.5 | 7.7 | 9.2 / 0.459 | 2.6 / 0.217 | 5.6 / 0.244 | 1.7 / 0.043 | 0 / 0.000 | 57 / 0.934 | | 1.0 / 0.028 | | | 0.00 | | | | | 25 | 34 | 0 | 0.8 | | USGS |
| Nov | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 minimum .62 maximum 230 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Minera[illegible]ses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 16
## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Alamo River at International Boundary** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 0920 | 1.82 | 50 | 10.8 | 95 | 4,255 | 8.2 | | | | | 0 / 0.00 | 377 / 6.18 | | 740 / 20.86 | | | 0.82 | | | | 60 | 879 | | 45 | | DWR |
| Feb 15 0900 | 1.82 | 54 | 10.4 | 97 | 4,608 | 8.4 | | | | | 0 / 0.00 | 366 / 6.00 | | 865 / 24.40 | | | 1.32 | | | | 63 | 903 | | 5- | | DWR |
| Mar 15 0800 | 2.0 | 59 | 11.4 | 112 | 3,922 | 8.2 | | | | | 0 / 0.00 | 337 / 5.52 | | 695 / 19.60 | | | 0.82 | | | | 60 | 816 | | 20 | | DWR |
| Apr 12 0800 | 2.21 | 61 | 10.8 | 109 | 4,545 | 8.2 | | | | | 24 / 0.80 | 293 / 4.80 | | 860 / 24.26 | | | 1.64 | | | | 62 | 898 | | 25 | | DWR |
| May 17 0745 | 3.15 | 64 | 10.4 | 109 | 4,082 | 8.2 | 214 / 10.68 | 91 / 7.48 | 740 / 32.19 | 10.2 / 0.26 | 0 / 0.00 | 349 / 5.72 | 923 / 19.23 | 860 / 24.25 | 1.0 / 0.02 | 1.0 / 0.05 | 1.54 | 12 | (a) | 3075 | 64 | 908 | 622 | 8 | | DWR |
| Jun 14 0730 | 3.91 | 64 | 7.4 | 78 | 4,240 | 8.1 | | | | | 0 / 0.00 | 322 / 5.28 | | 810 / 22.84 | | | 1.06 | | | | 61 | 894 | | 12 | | DWR |
| Jul 19 0715 | 4.76 | 81 | 5.8 | 72 | 5,128 | 8.2 | | | | | 12 / 0.40 | 320 / 5.25 | | 605 / 17.06 | | | 1.39 | | | | 65 | 1025 | | 15 | | DWR |
| Aug 16 0730 | 1.5 | 82 | 5.7 | 72 | 5,128 | 8.2 | | | | | | 303 / 4.97 | | 1055 / 29.75 | | | 1.46 | | | | 56 | 1030 | | 56 | | DWR |
| Sep 20 0700 | 3.41 | 66 | 7.4 | 79 | 4,566 | 8.0 | 202 / 10.08 | 106 / 8.71 | 675 / 29.36 | 9.2 / 0.236 | 0 / 0.00 | 312 / 5.12 | 901 / 18.78 | 865 / 24.39 | 5.0 / 0.080 | 0.8 / 0.042 | 1.10 | 10 | $PO_4$ 0.08; (a) | 3142 | 61 | 940 | 684 | 11 | | DWR |
| Oct 18 0750 | 4.07 | 70 | 7.6 | 85 | 5,076 | 7.8 | | | | | | 312 / 5.11 | | 1060 / 29.90 | | | 1.40 | | | | 60 | 1034 | | 18 | | DWR |
| Nov 15 1500 | 2.32 | 59 | 11.8 | 116 | 5,682 | 8.4 | | | | | 6 / 0.20 | 334 / 5.47 | | 1140 / 32.14 | | | 1.68 | | | | 60 | 1188 | | 5- | | DWR |
| Dec 20 0745 | 2.79 | 50 | 9.6 | 85 | 5,882 | 8.0 | | | | | 0 / 0.00 | 390 / 6.39 | | 1160 / 32.72 | | | 1.38 | | | | 63 | 1184 | | 5 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 6.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 16
## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Alamo River at International Boundary** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 0730 | 2.55 | 50 | 9.8 | 87 | 4329 | 7.8 | | | | | 0 / 0.00 | 322 / 5.28 | | 795 / 22.42 | | | 1.25 | | | | 61 | 890 | | -5 | | DWR |
| Feb 7 0725 | 2.79 | 46 | 9.8 | 83 | 4694 | 7.9 | | | | | 0 / 0.00 | 344 / 5.64 | | 850 / 23.96 | | | 1.43 | | | | 60 | 945 | | 19 | | DWR |
| Mar 13 0740 | 2.67 | 46 | 11.0 | 92 | 4525 | 8.2 | | | | | 0 / 0.00 | 346 / 5.67 | | 825 / 23.26 | | | 1.60 | | | | 62 | 893 | | -5 | | DWR |
| Apr 17 0710 | 3.67 | 61 | 10.0 | 100 | 4587 | 8.1 | | | | | 0 / 0.00 | 326 / 5.34 | | | | | 1.34 | | | | 62 | 882 | | 10 | | DWR |
| May 8 0600 | 2.79 | 64 | 9.2 | 96 | 5319 | 8.2 | 217 / 10.83 | 135 / 11.10 | 820 / 35.67 | 11.6 / 0.297 | 0 / 0.00 | 334 / 5.48 | 1090 / 22.70 | 1090 / 30.74 | 4.5 / 0.072 | 1.0 / 0.053 | 1.84 | 10 | $PO_4$ 0.2 | 3546[b] | 62 | 1096 | 822 | -5 | | DWR |
| June 19 0745 | 2.44 | 73 | 8.0 | 92 | 4902 | 7.8 | | | | | 0 / 0.00 | 339 / 5.56 | | 993 / 28.00 | | | 0.95 | | | | 55 | 1061 | 55 | -5 | | DWR |
| July 17 0645 | 2.44 | 79 | 4.4 | 54 | 5680 | 7.8 | | | | | 0 / 0.00 | 373 / 6.11 | | 1150 / 32.43 | | | 1.30 | | | | 63 | 1119 | 63 | -5 | | DWR |
| Aug 14 0635 | 3.28 | 81 | 5.0 | 62 | 3745 | 8.0 | | | | | 0 / 0.00 | 318 / 5.21 | | 715 / 20.16 | | | 1.02 | | | | 55 | 814 | | 34 | | DWR |
| Sept 18 0650 | 2.21 | 75 | 4.8 | 56 | 5348 | 7.8 | 246 / 12.28 | 143 / 11.75 | 828 / 36.01 | 14.0 / 0.358 | 0 / 0.00 | 359 / 5.88 | 1089 / 22.68 | 1140 / 32.15 | 11.9 / 0.192 | 1.0 / 0.052 | 1.44 | 20 | $PO_4$ 0.06; (a) | 3826[c] | 60 | 1202 | 908 | 40 | | DWR |
| Oct | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 8 0800 | 3.67 | 55 | 11.4 | 107 | 4901 | 8.0 | | | | | 0 / 0.00 | 356 / 5.83 | | 935 / 26.37 | | | 1.38 | | | | 59 | 1081 | | -5 | | DWR |
| Dec 11 1030 | 2.21 | 59 | 11.5 | 113 | 4000 | 8.1 | | | | | 24 / 0.80 | 281 / 4.61 | | 785 / 22.14 | | | 0.92 | | | | 59 | 895 | | 15 | median 23 | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 6.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 620 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 16
## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Alamo River near Calipatria | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1010 | 573 | 48 | 12.0 | 103 | 4,545 | 8.4 | | | | | 0/0.00 | 246/4.03 | | 935/26.36 | | | 0.30 | | | | 56 | 1042 | | 320 | | DWR |
| Feb 15 1030 | 894 | 54 | 11.0 | 102 | 2,740 | 8.3 | | | | | 0/0.00 | 190/3.11 | | 515/14.52 | | | 0.30 | | | | 53 | 708 | | 400 | | DWR |
| Mar 15 1045 | 979 | 61 | 9.6 | 97 | 3,333 | 8.2 | | | | | 0/0.00 | 198/3.25 | | 620/17.48 | | | 0.48 | | | | 53 | 780 | | 300 | | DWR |
| Apr 12 1030 | 945 | 64 | 8.8 | 92 | 3,195 | 8.2 | | | | | 0/0.00 | 203/3.33 | | 574/16.19 | | | 0.40 | | | | 54 | 729 | | 350 | | DWR |
| May 17 1010 | 1,115 | 70 | 9.6 | 107 | 3,040 | 7.7 | 175/8.73 | 84/6.90 | 430/18.71 | 10.6/0.27 | 0/0.00 | 217/3.56 | 629/13.11 | 595/16.78 | 6.0/0.10 | 0.9/0.05 | 0.42 | 12 | (a) | 2135 | 54 | 782 | 604 | 475 | | DWR |
| Jun 14 0950 | 811 | 70 | 7.4 | 82 | 3,330 | 8.2 | | | | | 0/0.00 | 215/3.52 | | 620/17.48 | | | 1.00 | | | | 53 | 807 | | 400 | | DWR |
| Jul 19 1100 | 977 | 82 | 6.6 | 85 | 3,210 | 8.2 | | | | | 10/0.33 | 176/2.88 | | 645/18.19 | | | 0.35 | | | | 53 | 763 | | 310 | | DWR |
| Aug 16 1045 | 900 | 86 | 6.4 | 84 | 2,725 | 8.3 | | | | | 5/0.17 | 163/2.67 | | 560/15.80 | | | 0.28 | | | | 47 | 728 | | 140 | | DWR |
| Sep 20 0930 | 980 | 70 | 7.8 | 87 | 2,666 | 8.2 | 158/7.88 | 76/6.25 | 340/14.79 | 8.9/0.228 | 0/0.00 | 181/2.96 | 599/12.48 | 510/14.38 | 6.0/0.096 | 0.8/0.042 | 0.38 | 10 | $PO_4$ 0.28; (a) | 1918 | 51 | 707 | 559 | 164 | | DWR |
| Oct 18 1030 | 1,164 | 72 | 7.6 | 86 | 2,762 | 8.2 | | | | | 18/0.60 | 151/2.47 | | 465/13.11 | | | 0.32 | | | | 52 | 682 | | 240 | | DWR |
| Nov 15 1700 | 1,051 | 57 | 9.6 | 93 | 3,546 | 8.4 | | | | | 0/0.00 | 211/3.46 | | 650/18.33 | | | 0.65 | | | | 53 | 825 | | 200 | | DWR |
| Dec 20 1045 | 784 | 52 | 10.0 | 90 | 3,558 | 8.0 | | | | | 0/0.00 | 210/3.44 | | 670/18.89 | | | 0.30 | | | | 52 | 871 | | 220 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 700 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 60 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 24,000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.0/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 16
## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Alamo River near Calipatria | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1015 | 718 | 54 | 9.6 | 89 | 3745 | 8.3 | | | | | 0 / 0.00 | 220 / 3.61 | | 765 / 21.57 | | | 0.46 | | | | 54 | 874 | | 200 | | DWR |
| Feb 7 1010 | 819 | 50 | 10.0 | 88 | 3559 | 8.0 | | | | | 0 / 0.00 | 239 / 3.92 | | 670 / 18.90 | | | 0.60 | | | | 52 | 830 | | 250 | | DWR |
| Mar 13 1005 | 789 | 50 | 9.8 | 87 | 3300 | 8.0 | | | | | 0 / 0.00 | 205 / 3.36 | | 602 / 16.98 | | | 0.42 | | | | 52 | 819 | | 300 | | DWR |
| Apr 17 1000 | 1,052 | 63 | 8.0 | 82 | 3175 | 8.0 | | | | | 0 / 0.00 | 209 / 3.43 | | | | | 0.30 | | | | 51 | 777 | | 200 | | DWR |
| May 8 1115 | 910 | 72 | 7.4 | 84 | 3185 | 8.1 | 165 / 8.23 | 96 / 7.89 | 390 / 16.97 | 11.0 / 0.282 | 0 / 0.00 | 210 / 3.44 | 674 / 14.05 | 580 / 16.36 | 6.8 / 0.110 | 0.8 / 0.042 | 0.44 | 15 | $PO_4$ 0.4 ; (a) | 2044[b] | 51 | 806 | 634 | 320 | | DWR |
| June 19 1130 | 954 | 79 | 7.0 | 86 | 3012 | 8.1 | | | | | 0 / 0.00 | 207 / 3.39 | | 522 / 14.72 | | | 0.38 | | | | 51 | 732 | | 290 | | DWR |
| July 17 1100 | 1,017 | 84 | 7.4 | 95 | 3115 | 8.2 | | | | | 0 / 0.00 | 212 / 3.47 | | 570 / 16.07 | | | 0.27 | | | | 54 | 762 | | 350 | | DWR |
| Aug 14 1030 | 978 | 84 | 6.8 | 87.5 | 3012 | 8.2 | | | | | 0 / 0.00 | 190 / 3.11 | | 550 / 15.51 | | | 0.29 | | | | 51 | 735 | | 450 | | DWR |
| Sept 18 1300 | 1,080 | 82 | 7.2 | 91 | 2924 | 8.0 | 155 / 7.73 | 82 / 6.74 | 352 / 15.31 | 9.7 / 0.248 | 0 / 0.00 | 198 / 3.24 | 616 / 12.83 | 500 / 14.10 | 6.8 / 0.110 | 1.2 / 0.063 | 0.50 | 15 | $PO_4$ 0.50; (a) | 1979 | 51 | 724 | 562 | 300 | | DWR |
| Oct 9 1630 | 1,183 | 74 | | | 3115 | 8.1 | | | | | 0 / 0.00 | 200 / 3.28 | | 565 / 15.93 | | | 0.52 | | | | 53 | 780 | | 160 | | DWR |
| Nov 8 1115 | 1,023 | 59 | 9.6 | 95 | 3690 | 8.1 | | | | | 0 / 0.00 | 217 / 3.56 | | 665 / 18.75 | | | 0.58 | | | | 53 | 884 | | 140 | | DWR |
| Dec 11 1410 | 880 | 50 | | | 3773 | 8.0* | | | | | 0 / 0.00 | 229 / 3.75 | | 695 / 19.60 | | | 0.38 | | | | 53 | 901 | | 400 | median 620 | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |
| * Lab pH | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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# TABLE 16
## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| All American Canal Near Pilot Knob | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 24 1740 | 6,820 | 73 | 8.8 | 101 | 1184 | 8.4 | 101 / 5.04 | 31 / 2.55 | 114 / 4.96 | 5.3 / 0.14 | 10 / 0.32 | 159 / 2.60 | 337 / 7.02 | 107 / 3.02 | 1.0 / 0.02 | 0.6 / 0.03 | 0.18 | 15 | (a) Sn 0.0 | 852 | 39 | 380 | 234 | 5- | | DWR |
| Oct 1 1645 | 5,680 | 77 | 10.0 | 119 | 1200 | 8.4 | 99 / 4.94 | 34 / 2.79 | 129 / 5.61 | 5.1 / 0.131 | 10 / 0.32 | 137 / 2.24 | 351 / 7.31 | 118 / 3.33 | 1.0 / 0.016 | 0.4 / 0.021 | 0.16 | 15 | $PO_4$ 0.26; (a) Sn 0.0 | 875 | 42 | 387 | 259 | 5- | median 0.6 minimum .23 maximum 1.3 | DWR |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 8 0700 | 6,012 | 72 | 8.8 | 100 | 1333 | 8.4 | 95 / 4.74 | 41 / 3.37 | 122 / 5.31 | 5.0 / 0.128 | 0 | 171 / 2.80 | 365 / 7.60 | 123 / 3.47 | 1.6 / 0.027 | 0.6 / 0.032 | 0.22 | 10 | (a); Sn 0.0 $PO_4$ 0.0 | 905 | 39 | 405 | 265 | 5- | | DWR |
| Sept 18 0750 | 5,350 | 82 | 8.2 | 103 | 1353 | 8.2 | 99 / 4.94 | 37 / 3.04 | 132 / 5.74 | 4.9 / 0.125 | 5 / 0.16 | 154 / 2.52 | 365 / 7.60 | 131 / 3.69 | 0.75 / 0.012 | 0.7 / 0.037 | 0.10 | 15 | (a) $PO_4$ 0.0 | 934 | 42 | 399 | 265 | 5- | median 3.4 minimum 0.6 maximum 6.2 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Colorado River at Topock, Arizona | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 19 2614 | 13,[illegible] | [illegible] | 9.6 | [illegible] | 1109 | [illegible] | 96 / 4.79 | 34 / 2.79 | 111 / 4.83 | 5.0 / 0.13 | 7 / 0.24 | 162 / 2.68 | 330 / 6.88 | 97 / 2.74 | 2.0 / 0.03 | 0.6 / 0.03 | 0.24 | 15 | Sn 0.0 ; (a) | 831 | 38 | 379 | 233 | 5- | median .6 minimum .23 maximum 2.3 | DWR |
| Sep 30 2830 | 10,9[illegible] | [illegible] | 9.[illegible] | 9[illegible] | 11[illegible] | [illegible] | 94 / 4.74 | 32 / 2.71 | 113 / 4.[illegible] | 5.0 / 0.13 | 0.0 / 0.0 | 154 / 2.52 | 329 / 7.06 | 99 / 2.79 | 4.0 / 0.064 | 0.4 / 0.021 | 0.16 | 15 | $PO_4$ 0.11; (a) Sn 0.0 | 805 | 39 | 383 | 257 | 5- | | DWR |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 30 0800 | 14,000 | 63 | 9.6 | 99 | 1229 | 8.5 | 103 / 5.14 | 35 / 2.88 | 116 / 5.05 | 5.1 / 0.131 | 10 / 0.32 | 168 / 2.76 | 356 / 7.41 | 105 / 2.96 | 2.5 / 0.04 | 0.7 / 0.037 | 0.16 | 15 | $PO_4$ 0.0; Sn 0.0; (a) | 855 | 38 | 397 | 243 | 5- | | DWR |
| Oct 17 1410 | 9,900 | 69 | 8.5 | 94 | 1295 | 7.7 | 116 / 5.79 | 26 / 2.14 | 116 / 5.05 | 5.[illegible] / 0.133 | 0 / 0.00 | 16[illegible] / 2.76 | 35[illegible] / 7.31 | 10[illegible] / 3.02 | 3.8 / 0.061 | 0.7 / 0.037 | 0.26 | 10 | $PO_4$ 0.0 ; (a) | 85[illegible] | 38 | 396 | 258 | 60 | median 6.2 minimum 6.2 maximum 6.2 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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REGION 7

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Colorado River below Morelos Dam** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 24 1605 | 3,[illegible] | 79 | 8.0 | [illegible] | 1216 | 8.4 | 102 / 5.09 | 22 / 2.30 | 120 / 5.22 | 5.4 / 0.14 | 12 / 0.40 | 142 / 2.32 | 242 / 7.12 | 107 / 3.02 | 1.0 / 0.02 | 0.6 / 0.03 | 0.16 | 15 | (a) Sn 0.0 | 850 | 41 | 370 | 234 | 12 | | [illegible] |
| Oct 1 1[illegible] | 37[illegible] | [illegible] | 7.[illegible] | [illegible] | 1[illegible]22 | 8.3 | 104 / 5.19 | 34 / 2.79 | 132 / 5.74 | 5.3 / 0.136 | 0.0 / 0.0 | 17[illegible] / 2.92 | 343 / 7.15 | 125 / 3.53 | 4.0 / 0.064 | 0.4 / 0.021 | 0.16 | 15 | $PO_4$ 0.03; (a) Sn 0.0 | 895 | 41 | 399 | 253 | 16 | median 96 minimum 62 maximum 240 | [illegible] |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 8 0750 | Est. 30 | 66 | 8.4 | 90 | 1381 | 8.4 | 109 / 5.44 | 38 / 3.12 | 128 / 5.57 | 4.8 / 0.123 | 0.0 | 215 / 3.52 | 346 / 7.21 | 130 / 3.67 | 1.0 / 0.016 | 0.5 / 0.026 | 0.22 | 15 | Sn 0.0; $PO_4$ 0.0; (a) | 919 | 40 | 428 | 252 | -5 | | DWR |
| Sept 18 0955 | Est. 30 | 82 | 8.2 | 104 | 1280 | 8.4 | 102 / 5.09 | 36 / 2.96 | 118 / 5.13 | 4.2 / 0.107 | 0.0 / 0.00 | 215 / 3.52 | 325 / 6.77 | 112 / 3.16 | 0.25 / 0.004 | 0.7 / 0.037 | 0.10 | 15 | $PO_4$ 0.0; (a) | 882 | 39 | 402 | 226 | -5 | median 42 minimum 12 maximum 62 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm c | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform d MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Colorado River near Blythe** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 24 1900 | Est 11,[illegible] | 72 | 9.2 | 105 | 1[illegible]03 | 8.4 | 101 / 5.04 | 31 / 2.55 | 111 / 4.83 | 5.0 / 0.13 | 14 / 0.48 | 149 / 2.44 | 330 / 6.87 | 99 / 2.79 | 2.5 / 0.04 | 0.6 / 0.03 | 0.14 | 15 | (a) Sn 0.0 | 806 | 38 | 380 | 234 | 5- | | DWR |
| Oct 1 1100 | Est 10,5[illegible] | 73 | 9.0 | 104 | 1233 | 8.3 | 100 / 4.99 | 33 / 2.71 | 118 / 5.13 | 5.2 / 0.133 | 0.0 / 0.0 | 154 / 2.52 | 343 / 7.14 | 106 / 2.99 | 4.0 / 0.064 | 0.4 / 0.021 | 0.16 | 15 | (a) $PO_4$ 0.04 ; Sn 0.0 | 805 | 40 | 385 | 259 | 5- | median 2.3 minimum 1.3 maximum 6.2 | DWR |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 30 1600 | 9,750 | 73 | 9.0 | 105 | 1266 | 8.4 | 101 / 5.04 | 35 / 2.88 | 120 / 5.22 | 5.1 / 0.131 | 10 / 0.32 | 156 / 2.56 | 364 / 7.58 | 108 / 3.05 | 2.0 / 0.032 | 0.6 / 0.032 | 0.10 | 12 | (a) $PO_4$ 0.0; Sn 0.0 | 845 | 39 | 396 | 252 | 5- | | DWR |
| Oct 17 0815 | 8,150 | 70 | 8.5 | 95 | 1191 | 8.1 | 101 / 5.04 | 35 / 2.88 | 120 / 5.22 | 5.4 / 0.138 | 0 / 0.00 | 161 / 2.64 | 357 / 7.44 | 116 / 3.27 | 2.0 / 0.032 | 0.3 / 0.042 | 0.20 | 10 | (a) $PO_4$ 0.0 | 910 | 39 | 396 | 264 | 5- | median 6.2 minimum 6.2 maximum 6.2 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Colorado River at Parker Dam** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 24 1300 | 13,900 | 68 | 9.6 | 105 | 1109 | 8.4 | 93 / 4.64 | 31 / 2.55 | 160 / 6.96 | 5.0 / 0.13 | 10 / 0.32 | 154 / 2.52 | 326 / 6.79 | 96 / 2.71 | 2.0 / 0.03 | 0.6 / 0.03 | 0.20 | 15 | (a) Sn 0.0 | 800 | 38 | 372 | 330 | 5 | | [illegible] |
| Oct 1 [illegible] | [illegible] | 74 | 7.6 | 89 | 1181 | 8.1 | 102 / 5.09 | 30 / 2.47 | 115 / 5.00 | 5.2 / 0.133 | 0.6 / 0.0 | 146 / 2.40 | 330 / 6.85 | 101 / 2.85 | 1.0 / 0.016 | 0.4 / 0.021 | 0.14 | 15 | (a) $PO_4$ 0.02; Sn 0.0 | 820 | 39 | 378 | 258 | 5 | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 1.46 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2.3 | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 30 1300 | 17,200 | 66 | 9.0 | 96 | 1244 | 8.4 | 102 / 5.09 | 34 / 2.79 | 120 / 5.22 | 5.1 / 0.131 | 10 / 0.32 | 159 / 2.60 | 354 / 7.36 | 105 / 2.96 | 2.3 / 0.037 | 0.7 / 0.037 | 0.16 | 12 | (a) $PO_4$ 0.0; Sn 0.0 | 850 | 40 | 399 | 253 | 5 | | DWR |
| Oct 17 1130 | 9,080 | 74 | 7.5 | 87 | 1288 | 7.2 | 99 / 4.94 | 36 / 2.96 | 113 / 4.92 | 5.2 / 0.133 | 0 / 0.00 | 159 / 2.60 | 360 / 7.49 | 109 / 3.07 | 3.4 / 0.054 | 0.7 / 0.037 | 0.30 | 10 | (a) $PO_4$ 0.0 | 881 | 38 | 395 | 265 | 5 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median .76 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 1.3 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Colorado River at Yuma, Arizona** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 24 1700 | 2,520 | 75 | 8.8 | 103 | 1184 | 8.4 | 102 / 5.09 | 33 / 2.71 | 123 / 5.35 | 5.4 / 0.14 | 10 / 0.32 | 163 / 2.68 | 348 / 7.26 | 115 / 3.24 | 1.5 / 0.02 | 0.6 / 0.03 | 0.18 | 15 | (a) Sn 0.0 | 895 | 40 | 390 | 240 | 32 | | DWR |
| Oct 1 1625 | 815 | 81 | 8.6 | 106 | 1435 | 8.4 | 109 / 5.44 | 35 / 2.88 | 148 / 6.44 | 5.5 / 0.141 | 0.0 / 0.00 | 181 / 2.96 | 367 / 7.64 | 145 / 4.09 | 1.5 / 0.024 | 0.4 / 0.021 | 0.18 | 12 | $PO_4$ 0.04; (a) Sn 0.0 | 955 | 43 | 416 | 268 | 28 | median 4.2 minimum 2.3 maximum 6.2 | DWR |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 8 0820 | 416 | 70 | 8.4 | 95 | 1582 | 8.4 | 111 / 5.54 | 45 / 3.70 | 1.56 / 6.79 | 5.4 / 0.138 | 0 | 220 / 3.60 | 380 / 7.91 | 176 / 4.96 | 1.50 / 0.024 | 0.6 / 0.032 | 0.56 | 15 | $PO_4$ 0.03; (a) Sn 0.00 | 1050 | 42 | 462 | 282 | -5 | | DWR |
| Sept 18 0810 | 834 | 81 | 7.8 | 97 | 1359 | 8.1 | 107 / 5.34 | 40 / 3.29 | 145 / 6.31 | 5.3 / 0.136 | 0.0 | 193 / 3.16 | 379 / 7.90 | 154 / 4.34 | 2.0 / 0.032 | 0.8 / 0.042 | 0.12 | 15 | $PO_4$ 0.0; (a) | 1002 | 42 | 432 | 274 | -5 | median 42 minimum 13 maximum 130 | DWR |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | Lake Havasu at Metropolitan Water District Intake | | | | | | | | | | | | | | | |
| 1959 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 | | 59 | | | 1165 | 8.2 | | | | | 0 / 0.00 | 156 / 2.56 | | 51 / 1.43 | | | | | | | 38 | 336 | | | | [illegible] |
| Feb 27 | | 59 | | | 1070 | 8.1 | | | | | 2 / 0.07 | 141 / 2.34 | | 50 / 1.40 | | | | | | | 38 | 337 | | | | [illegible] |
| Mar 27 | | 59 | | | [illegible] | [illegible] | | | | | 1 / [illegible] | 154 / [illegible] | | 53 / 1.49 | | | | | | | 39 | 346 | | | | [illegible] |
| Apr | Not [illegible] | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 3 | | [illegible] | | | [illegible] | [illegible] | 92 / 4.59 | 30 / 2.51 | 115 / 4.81 | 4 / 0.10 | 4 / 0.13 | 154 / 2.46 | 312 / 6.51 | [illegible] / 1.49 | 6.9 / 0.11 | | | 9.5 | | 722 | 39 | 355 | 247 | | | [illegible] |
| Jun 14 | | [illegible] | | | [illegible] | [illegible] | | | | | 2 / 0.07 | 151 / 2.47 | | 46 / 1.29 | | | | | | | 39 | 375 | | | | [illegible] |
| Jul 12 | | 84 | | | [illegible] | 7.9 | | | | | 0 / [illegible] | 154 / 2.52 | | 100 / 2.82 | | | | | | | 41 | 370 | | | | [illegible] |
| Aug 16 | | 87 | | | 1215 | 8.3 | | | | | 0 / 0.00 | 144 / 2.36 | | 102 / 2.88 | | | | | | | 41 | 361 | | | | [illegible] |
| Sep 13 | | 87 | | | 1220 | 8.5 | 96 / 4.29 | 33 / 2.71 | 115 / 5.00 | 5 / 0.13 | 4 / 0.13 | 143 / 2.34 | 342 / 7.16 | 100 / 2.82 | 0.2 / 0.01 | | | 10.8 | | 765 | 41 | 351 | 244 | | | [illegible] |
| Oct 25 | | 75 | | | 1255 | 8.4 | | | | | 2 / 0.07 | 133 / 2.18 | | 102 / 2.88 | | | | | | | 40 | 370 | | | | [illegible] |
| Nov 29 | | 62 | | | 1245 | 7.9 | | | | | 0 / 0.00 | 156 / 2.56 | | 104 / 2.93 | | | | | | | 39 | 389 | | | | [illegible] |
| Dec 29 | | 57 | | | 1255 | 8.1 | | | | | 0 / 0.00 | 159 / 2.61 | | 102 / 2.88 | | | | | | | 39 | 387 | | | | [illegible] |
| * Field | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 16
## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Lake Havasu at Metropolitan Water District Intake | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 24 | | 56 | | | 1255 | 8.2* | | | | | 0 / 0.00 | 157 / 2.57 | | 104 / 2.93 | | | | | | | 39 | 390 | | | | MWD |
| Feb 2 | | 54 | | | 1260 | 8.3* | | | | | 1 / 0.03 | 167 / 2.74 | | 102 / 2.88 | | | | | | | 39 | 395 | | | | MWD |
| Mar 20 1035 | | 58 | | | 1250 | 8.3* | | | | | 0 / 0.00 | 168 / 2.75 | | 102 / 2.83 | | | 0.15 | | | | 39 | 388 | | | | MWD |
| Apr 18 | | 72 | | | 1235 | 8.4* | | | | | 0 / 0.00 | 149 / 2.44 | | 102 / 2.88 | | | | | | | 39 | 375 | | | | MWD |
| May 8 | Est 500 | 72 | | | 1235 | 8.4* | 96 / 4.79 | 33 / 2.71 | 113 / 4.92 | 5 / 0.13 | 0 / 0.00 | 149 / 2.44 | 350 / 7.28 | 102 / 2.88 | 1.7 / 0.03 | | | 10.8 | | 786 | 39 | 375 | 253 | | | MWD |
| June 5 1030 | | 72 | | | 1260 | 8.1* | | | | | 0 / 0.00 | 155 / 2.54 | | 107 / 3.02 | | | | | | | 39 | 384 | | | | MWD |
| July | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 14 | | 84 | | | 1255 | 8.5* | | | | | 2 / 0.07 | 133 / 2.18 | | 108 / 3.05 | | | | | | | 41 | 370 | | | | MWD |
| Sept 18 | | 85 | | | 1250 | 8.55* | 88 / 4.39 | 35 / 2.88 | 120 / 5.22 | 5 / 0.13 | 4 / 0.13 | 128 / 2.10 | 363 / 7.55 | 105 / 2.96 | 0.4 / 0.01 | | | 9.8 | | 794 | 41 | 364 | 253 | 5 | | MWD |
| Oct | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 6 | | | | | 1260 | 8.1* | | | | | 0 / 0.00 | 155 / 2.54 | | 109 / 3.07 | | | | | | | 40 | 390 | | | | MWD |
| Dec 1 1055 | | 54 | | | 1290 | 8.2 | | | | | 0 / 0.00 | 163 / 2.67 | | 109 / 3.07 | | | | | | | 39 | 400 | | | | MWD |

* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

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REGION 7

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **New River near Calexico (International Boundary)** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 19 0735 | 108 | 48 | 9.6 | 84 | 2,518 | 8.3 | | | | | 0 / 0.00 | 267 / 4.38 | | 488 / 13.76 | | | 0.26 | | | | 54 | 614 | | 18 | | DWR |
| Feb 15 0715 | 65 | 54 | 6.6 | 62 | 6,410 | 7.9 | | | | | 0 / 0.00 | 254 / 4.16 | | 1575 / 44.40 | | | 0.72 | | | | 61 | 1352 | | 5- | | DWR |
| Mar 15 0725 | 46 | 59 | 1.8 | 18 | 5,465 | 7.3 | | | | | 0 / 0.00 | 256 / 4.20 | | 1280 / 36.10 | | | 0.84 | | | | 59 | 1151 | | 23 | | DWR |
| Apr 18 0710 | 26 | 62 | 1.5 | 15 | 6,250 | 7.7 | | | | | 0 / 0.00 | 249 / 4.08 | | 1595 / 44.99 | | | 0.44 | | | | 57 | 1374 | | 12 | | DWR |
| May 17 0615 | 27 | 66 | 1.8 | 19 | 4,587 | 7.3 | 284 / 14.27 | 115 / 9.45 | 740 / 32.19 | 15 / 0.38 | 0 / 0.00 | 293 / 4.80 | 703 / 14.65 | 1260 / 35.53 | 0 / 0.0 | 0.9 / 0.05 | 0.72 | 12 | $NH_4$ 3.9 / 0.22; (a) Fe 0.4 | 3520 | 59 | 1106 | 266 | 20 | | DWR |
| Jun 14 0620 | 29 | 68 | 0.0 | 0 | 7,500 | 7.6 | | | | | 0 / 0.00 | 254 / 4.16 | | 2000 / 56.40 | | | 1.00 | | | | 60 | 1643 | | 70 | | DWR |
| Jul 19 0625 | 32 | 81 | 0.0 | 0 | 9,809 | 7.6 | | | | | | 195 / 3.20 | | 2815 / 79.40 | | | 0.72 | | | | 60 | 2136 | | 12 | | DWR |
| Aug 16 0645 | 50 | 82 | 0.0 | 0 | 9,434 | 7.8 | | | | | | 190 / 3.11 | | 2475 / 69.79 | | | 2.80 | | | | 54 | 2299 | | 8 | | DWR |
| Sep 20 0610 | 44 | 68 | 2.6 | 28 | 9,009 | 7.8 | 438 / 21.86 | 224 / 18.41 | 1350 / 58.73 | 25.5 / 0.653 | 0.0 / 0.0 | 200 / 3.28 | 1128 / 23.70 | 2540 / 71.63 | 3.7 / 0.060 | 0.8 / 0.042 | 0.98 | 10 | $PO_4$ 0.7; (a) Fe 0.2 | 6689 | 59 | 2014 | 1845 | 16 | | DWR |
| Oct 18 0710 | 74 | 72 | 1.8 | 20 | 3,860 | 7.4 | | | | | | 238 / 3.90 | | 2520 / 71.06 | | | 1.80 | | | | 62 | 1820 | | 10 | | DWR |
| Nov 15 1350 | 174 | 59 | 9.0 | 89 | 5,050 | 8.2 | | | | | 0 / 0.00 | 237 / 3.88 | | 1225 / 34.55 | | | 1.00 | | | | 58 | 1023 | | 5- | | DWR |
| Dec 20 0700 | 137 | 50 | 8.0 | 71 | 5,319 | 8.1 | | | | | 0 / 0.00 | 256 / 4.20 | | 1300 / 36.66 | | | 0.67 | | | | 61 | 1063 | | 46 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62,000 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 1300 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700,000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

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## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **New River near Calexico (International Boundary)** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 0640 | 94 | 50 | 6.2 | 55 | 6803 | 8.0 | | | | | 0 / 0.00 | 281 / 4.61 | | 1790 / 50.48 | | | 0.85 | | | | 62 | 1296 | | 12 | | DWR |
| Feb 7 0630 | 109 | 50 | 7.8 | 69 | 6452 | 7.8 | | | | | 0 / 0.00 | 273 / 4.47 | | 1625 / 45.82 | | | 1.54 | | | | 68 | 1172 | | 14 | | DWR |
| Mar 13 0700 | 94 | 50 | 9.8 | 86 | 6536 | 8.0 | | | | | 0 / 0.00 | 273 / 4.47 | | 1660 / 46.81 | | | 1.58 | | | | 63 | 1195 | | 10 | | DWR |
| Apr 17 0640 | 108 | 61 | 4.2 | 42 | 6289 | 8.0 | | | | | 0 / 0.00 | 271 / 4.44 | | 1615 / 45.55 | | | 0.94 | | | | 62 | 1218 | | 21 | | DWR |
| May 8 0515 | 103 | 68 | 3.0 | 33 | 6329 | 7.7 | 247 / 12.33 | 153 / 12.53 | 956 / 41.59 | 29.0 / 0.742 | 0 / 0.00 | 276 / 4.52 | 854 / 17.80 | 1610 / 45.40 | 1.2 / 0.019 | 0.8 / 0.042 | 1.24 | 10 | $PO_4$ 0.4 ; (a) | 3999[b] | 62 | 1245 | 1019 | 5 | | DWR |
| June 19 0650 | 90 | 75 | 2.4 | 28 | 6369 | 7.8 | | | | | 0 / 0.00 | 281 / 4.61 | | 1710 / 48.22 | | | 0.51 | | | | 62 | 1242 | | 5 | | DWR |
| July 17 0550 | 105 | 82 | 2.0 | 25 | 6410 | 7.9 | | | | | 0 / 0.00 | 244 / 4.00 | | 1655 / 46.67 | | | 1.12 | | | | 64 | 1226 | | 12 | | DWR |
| Aug 14 0530 | 106 | 82 | 0.5 | 6 | 6579 | 7.9 | | | | | 0 / 0.00 | 246 / 4.03 | | 1800 / 50.76 | | | 0.92 | | | | 65 | 1290 | | 25 | | DWR |
| Sept 18 0600 | 99 | 81 | 0.5 | 6 | 6211 | 7.8 | 242 / 12.08 | 158 / 12.98 | 1000 / 43.50 | 31.6 / 0.809 | 0.0 / 0.00 | 242 / 3.96 | 830 / 17.30 | 1670 / 47.09 | 6.4 / 0.104 | 0.8 / 0.042 | 1.15 | 20 | $PO_4$ 1.3; (a) | 4603[c] | 63 | 1253 | 1055 | 10 | | DWR |
| Oct 9 1310 | 74 | 80 | 1.0 | 12 | 6666 | 7.6 | | | | | 0 / 0.00 | 239 / 3.92 | | 1778 / 50.14 | | | 1.22 | | | | 64 | 1280 | | 12 | | DWR |
| Nov 8 0705 | 118 | 57 | 6.0 | 58 | 5291 | 8.0 | | | | | 0 / 0.00 | 246 / 4.03 | | 1297 / 36.58 | | | 1.12 | | | | 60 | 1071 | | 5 | | DWR |
| Dec 11 0950 | 84 | 49 | 8.5 | 73 | 4652 | 8.4 | | | | | 24 / 0.80 | 215 / 3.52 | | 1175 / 33.14 | | | 0.72 | | | | 61 | 1006 | | 175 | median 23,000 minimum 2300 maximum 700,000 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **New River near Westmorland** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1100 | 397 | 52 | 10.0 | 91 | 5,128 | 8.2 | | | | | 0 / 0.00 | 452 / 7.41 | | 1205 / 33.98 | | | 0.80 | | | | 63 | 953 | | 140 | | DWR |
| Feb 15 1030 | 624 | 55 | 9.6 | 90 | 3,704 | 8.2 | | | | | 0 / 0.00 | 220 / 3.61 | | 835 / 23.55 | | | 0.56 | | | | 60 | 766 | | 170 | | DWR |
| Mar 15 0950 | 639 | 61 | 9.0 | 91 | 3,922 | 7.8 | | | | | 0 / 0.00 | 222 / 3.64 | | 840 / 23.68 | | | 0.72 | | | | 59 | 799 | | 210 | | DWR |
| Apr 12 0940 | 711 | 64 | 7.8 | 81 | 3,246 | 8.1 | | | | | 0 / 0.00 | 224 / 3.67 | | 822 / 23.18 | | | 0.80 | | | | 58 | 803 | | 240 | | DWR |
| May 17 0930 | 662 | 68 | 8.4 | 92 | 3,077 | 7.6 | 174 / 8.68 | 74 / 6.08 | 460 / 20.00 | 11.4 / 0.29 | 0 / 0.00 | 232 / 3.80 | 560 / 11.67 | 685 / 19.32 | 4.5 / 0.07 | 0.8 / 0.04 | 0.68 | 12 | (a) | 2180 | 57 | 738 | 548 | 200 | | DWR |
| Jun 14 0915 | 594 | 70 | 6.8 | 76 | 3,650 | 8.1 | | | | | 0 / 0.00 | 228 / 3.74 | | 760 / 21.44 | | | 0.68 | | | | 59 | 774 | | 260 | | DWR |
| Jul 19 1010 | 594 | 86 | 6.0 | 79 | 3,891 | 8.2 | | | | | 14 / 0.47 | 181 / 2.97 | | 995 / 28.06 | | | 0.50 | | | | 58 | 959 | | 105 | | DWR |
| Aug 16 0915 | 750 | 86 | 5.2 | 68 | 4,227 | 8.3 | | | | | | 198 / 3.25 | | 1025 / 28.90 | | | 1.48 | | | | 53 | 920 | | 182 | | DWR |
| Sep 20 1000 | 697 | 72 | 7.8 | 88 | 2,994 | 8.2 | 165 / 8.23 | 74 / 6.08 | 430 / 18.71 | 9.6 / 0.246 | 0.0 / 0.0 | 188 / 3.08 | 546 / 11.37 | 675 / 19.04 | 5.5 / 0.088 | 0.4 / 0.021 | 0.52 | 10 | $PO_4$ 0.32; (a) | 2134 | 56 | 716 | 562 | 144 | | DWR |
| Oct 18 0945 | 612 | 72 | 6.4 | 73 | 4,630 | 8.0 | | | | | | 220 / 3.61 | | 1055 / 29.75 | | | 0.90 | | | | 59 | 935 | | 100 | | DWR |
| Nov 15 1630 | 697 | 57 | 8.8 | 85 | 4,002 | 8.0 | | | | | 0 / 0.00 | 220 / 3.61 | | 870 / 24.54 | | | 0.80 | | | | 57 | 820 | | 120 | | DWR |
| Dec 20 1000 | 520 | 52 | 8.8 | 79 | 5,319 | 8.0 | | | | | 0 / 0.00 | 256 / 4.20 | | 1280 / 36.06 | | | 0.80 | | | | 61 | 1043 | | 175 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2300 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 70,000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

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| **New River near Westmorland** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 0945 | 542 | 54 | 8.0 | 74 | 4975 | 8.2 | | | | | 0 / 0.00 | 249 / 4.08 | | 1200 / 33.84 | | | 0.96 | | | | 62 | 974 | | 120 | | DWR |
| Feb 7 0930 | 587 | 50 | 9.2 | 81 | 4000 | 7.8 | | | | | 0 / 0.00 | 242 / 3.97 | | 870 / 24.54 | | | 1.80 | | | | 60 | 777 | | 160 | | DWR |
| Mar 13 0935 | 624 | 52 | 9.0 | 82 | 4484 | 8.0 | | | | | 0 / 0.00 | 244 / 4.00 | | 975 / 27.48 | | | 1.45 | | | | 60 | 893 | | 200 | | DWR |
| Apr 17 0930 | 827 | 63 | 7.4 | 76 | 3650 | 7.9 | | | | | 0 / 0.00 | 220 / 3.61 | | 760 / 21.43 | | | 0.60 | | | | 59 | 769 | | 500 | | DWR |
| May 8 1030 | 677 | 70 | 6.6 | 74 | 4255 | 7.9 | 199 / 9.93 | 97 / 7.97 | 578 / 25.14 | 13.6 / 0.348 | 0 / 0.00 | 242 / 3.96 | 660 / 13.74 | 925 / 26.09 | 5.0 / 0.000 | 0.8 / 0.042 | 0.80 | 10 | $PO_4$ 0.7 ; (a) | 2608[b] | 58 | 895 | 697 | 250 | | DWR |
| June 19 1045 | 610 | 77 | 6.8 | 81 | 4347 | 8.0 | | | | | 0 / 0.00 | 237 / 3.88 | | 955 / 26.93 | | | 0.78 | | | | 58 | 869 | | 125 | | DWR |
| July 17 0940 | 720 | 84 | 5.6 | 72 | 4115 | 8.0 | | | | | 0 / 0.00 | 232 / 3.80 | | 930 / 26.23 | | | 0.73 | | | | 60 | 867 | | 250 | | DWR |
| Aug 14 0915 | 651 | 82 | 5.8 | 73 | 4785 | 8.0 | | | | | 0 / 0.00 | 239 / 3.92 | | 1150 / 32.43 | | | 0.71 | | | | 61 | 966 | | 400 | | DWR |
| Sept 18 1210 | 611 | 82 | 7.0 | 89 | 4405 | 7.9 | 206 / 10.28 | 99 / 8.14 | 630 / 27.40 | 15.0 / 0.384 | 0 / 0.00 | 232 / 3.80 | 686 / 14.29 | 1020 / 28.76 | 7.9 / 0.128 | 0.8 / 0.042 | 0.92 | 15 | $PO_4$ 0.64; (a) | 3391[c] | 59 | 921 | 731 | 300 | | DWR |
| Oct 9 1540 | 656 | 76 | 6.5 | 76 | 4274 | 8.1 | | | | | 0 / 0.00 | 222 / 3.64 | | 945 / 26.65 | | | 0.78 | | | | 59 | 873 | | 230 | | DWR |
| Nov 8 1030 | 652 | 59 | 8.0 | 79 | 4310 | 7.9 | | | | | 0 / 0.00 | 239 / 3.92 | | 963 / 27.16 | | | 0.94 | | | | 59 | 909 | | 140 | | DWR |
| Dec 11 1330 | 495 | 51 | 9.0 | 81 | 4347 | 8.0 | | | | | 0 / 0.00 | 246 / 4.03 | | 955 / 26.93 | | | 0.48 | | | | 60 | 836 | | 15 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6200 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 70,000 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Whitewater River at Whitewater | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 18 1400 | 15 | 48 | 12.4 | 107 | 421 | 8.4 | | | | | 7 / 0.23 | 213 / 3.49 | | 3 / 0.085 | | | 0.04 | | | | 12 | 200 | | 35 | | DWR |
| Feb 15 1500 | 7.5 | 64 | 10.4 | 109 | 366 | 8.4 | | | | | 7 / 0.23 | 183 / 3.00 | | 2 / 0.056 | | | 0.02 | | | | 13 | 170 | | 5- | | DWR |
| Mar 15 1515 | 14 | 57 | 11.0 | 106 | 385 | 8.4 | | | | | 12 / 0.40 | 173 / 2.84 | | 3 / 0.085 | | | 0.02 | | | | 13 | 170 | | 20 | | DWR |
| Apr 12 1515 | 9.0 | 62 | 9.6 | 99 | 400 | 8.4 | | | | | 12 / 0.40 | 178 / 2.92 | | 4 / 0.113 | | | 0.02 | | | | 13 | 178 | | 5- | | DWR |
| May 17 1500 | 8.4 | 70 | 11.0 | 123 | 386 | 8.3 | 49 / 2.45 | 15 / 1.23 | 14 / 0.61 | 5.0 / 0.13 | 10 / 0.32 | 210 / 3.44 | 32 / 0.66 | 4 / 0.11 | 0 / 0.00 | 1.0 / 0.05 | 0.0 | 15 | (a) | 225 | 14 | 184 | 0 | 5- | | DWR |
| Jun 14 1330 | 14 | 66 | 8.8 | 94 | 413 | 8.2 | | | | | 7 / 0.23 | 200 / 3.28 | | 4 / 0.113 | | | 0.14 | | | | 14 | 182 | | 5- | | DWR |
| Jul 19 1410 | 7.0/10 | 70 | 8.4 | 93 | 364 | 8.4 | | | | | 0 / 0.00 | 205 / 3.36 | | 6 / 0.169 | | | 0.16 | | | | 17 | 148 | | 5- | | DWR |
| Aug 16 1315 | 13 | 77 | 7.4 | 88 | 365 | 8.4 | | | | | | 176 / 2.88 | | 9 / 0.254 | | | 0.0 | | | | 12 | 165 | | 48 | | DWR |
| Sep 20 1400 | 10/12 | 70 | 8.4 | 93 | 353 | 8.4 | 48 / 2.40 | 12 / 0.99 | 14 / 0.61 | 4.7 / 0.120 | 0.0 / 0.0 | 190 / 3.12 | 34 / 0.70 | 5 / 0.14 | 0.7 / 0.012 | 0.8 / 0.042 | 0.0 | 20 | $PO_4$ 0.05; (a) | 229 | 15 | 170 | 14 | 5- | | DWR |
| Oct 18 1345 | Est. 8.0/9.0 | 66 | 8.4 | 90 | 407 | 8.2 | | | | | | 196 / 3.21 | | 13 / 0.37 | | | 0.10 | | | | 14 | 176 | | 5- | | DWR |
| Nov 16 0830 | 10/8.5 | 46 | 10.5 | 89 | 380 | 8.2 | | | | | 0 / 0.00 | 192 / 3.15 | | 5 / 0.141 | | | 0.06 | | | | 13 | 169 | | 14 | | DWR |
| Dec 20 1605 | 10.0 | 59 | 9.6 | 95 | 411 | 8.3 | | | | | 0 / 0.00 | 188 / 3.08 | | 5 / 0.141 | | | 0 / 0 | | | | 13 | 176 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 62 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 16
## ANALYSES OF SURFACE WATER

REGION 7

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Whitewater River at Whitewater | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1530 | Est 7.6 | 57 | 9.4 | 91 | 385 | 8.2 | | | | | 2 / 0.07 | 195 / 3.20 | | 6 / 0.169 | | | 0.02 | | | | 14 | 172 | | -5 | | DWR |
| Feb 7 1600 | 4.2 | 61 | 8.8 | 88 | 423 | 7.4 | | | | | 0 / 0.00 | 210 / 3.44 | | 6 / 0.169 | | | 0 | | | | 13 | 185 | | -5 | | DWR |
| Mar 13 1430 | 3.6 | 63 | 9.2 | 95 | 446 | 8.0 | | | | | 0 / 0.00 | 217 / 3.56 | | 8 / 0.226 | | | 0 | | | | 13 | 191 | | -5 | | DWR |
| Apr 17 1500 | 10 | 63 | 9.6 | 98 | 453 | 7.9 | | | | | 0 / 0.00 | 214 / 3.51 | | 7 / 0.20 | | | 0.12 | | | | 14 | 193 | | -5 | | DWR |
| May 8 1400 | 6.8 | 63 | 9.4 | 97 | 427 | 8.0 | 50 / 2.50 | 17 / 1.40 | 15 / 0.65 | 5.6 / 0.143 | 0 / 0.00 | 215 / 3.52 | 43 / 0.90 | 6 / 0.17 | 0.85 / 0.014 | 1.0 / 0.053 | 0.0 | 15 | $PO_4$ 0.00; (a) | 261[b] | 14 | 195 | 19 | -5 | | DWR |
| June 19 1630 | 1.8 | 70 | 9.0 | 99 | 397 | 8.4 | | | | | 0 / 0.00 | 210 / 3.44 | | 4 / 0.11 | | | 0.0 | | | | 12 | 184 | | -5 | | DWR |
| July 17 1445 | 1.6 | 68 | 9.3 | 107 | 431 | 8.0 | | | | | 0 / 0.00 | 215 / 3.52 | | 6 / 0.17 | | | 0.0 | | | | 13 | 196 | | -5 | | DWR |
| Aug 14 1430 | 6.3 | 66 | 9.2 | 98.4 | 429 | 8.0 | | | | | 0 / 0.00 | 215 / 3.52 | | 5 / 0.14 | | | 0.0 | | | | 20 | 196 | | -5 | | DWR |
| Sept 18 1500 | 4.0 | 68 | 8.8 | 96 | 416 | 8.3 | 51 / 2.54 | 15 / 1.23 | 13 / 0.57 | 5.5 / 0.141 | 0 / 0.00 | 220 / 3.60 | 35 / 0.73 | 4 / 0.11 | 0.85 / 0.014 | 0.9 / 0.047 | 0.00 | 15 | Zn 0.16; (a) $PO_4$ 0.0 | 258[c] | 13 | 188 | 8 | -5 | | DWR |
| Oct 10 1300 | 9.5 | 69 | 8.5 | 94 | 396 | 8.3 | | | | | 0 / 0.00 | 168 / 2.75 | | 5 / 0.14 | | | 0.04 | | | | 14 | 154 | | -5 | | DWR |
| Nov 8 1500 | 3.4 | 63 | 9.4 | 97 | 356 | 8.4 | | | | | 0 / 0.00 | 203 / 3.33 | | 4 / 0.11 | | | 0.00 | | | | 14 | 182 | | -5 | | DWR |
| Dec 12 1040 | 9.8 | 65 | 8.5 | 89 | 305 | 8.2 | | | | | 14 / 0.47 | 185 / 3.03 | | 6 / 0.169 | | | 0.0 | | | | 14 | 192 | | -5 | median 6.2 minimum .45- maximum 240 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Chino Creek near Chino | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1245 | Est 5 | 59 | 9.0 | 89 | 714 | 7.9 | | | | | 0 / 0.00 | 288 / 4.72 | | 30 / 0.85 | | | 0.08 | | | | 32 | 242 | | 30 | | DWR |
| Feb 8 1255 | Est 3 | 62 | 8.2 | 84 | 678 | 7.9 | | | | | 0 / 0.00 | 281 / 4.61 | | 37 / 1.04 | | | 0.06 | | | | 36 | 244 | | 12 | | DWR |
| Mar 8 1235 | Est 2 | 73 | 7.0 | 81 | 722 | 8.0 | | | | | 0 / 0.00 | 273 / 4.47 | | 33 / 0.93 | | | 0.22 | | | | 39 | 240 | | 25 | | DWR |
| Apr 4 1215 | Est 2 | 62 | 8.2 | 90 | 734 | 8.2 | | | | | 0 / 0.00 | 332 / 5.44 | | 34 / 0.96 | | | 0.18 | | | | 35 | 269 | | 9 | | DWR |
| May 9 1210 | Est 1.5 | 77 | 7.6 | 91 | 800 | 8.2 | 83 / 4.14 | 22 / 1.81 | 57 / 2.48 | 11.5 / 0.29 | 0 / 0.00 | 361 / 5.92 | 84 / 1.74 | 27 / 0.76 | 26 / 0.42 | 0.40 / 0.02 | 0.16 | 32 | (4) | 505[c] | 28 | 298 | 2 | 35 | | DWR |
| Jun 7 1130 | Est 1 | 77 | 8.2 | 98 | 877 | 8.4 | | | | | 12 / 0.40 | 272 / 6.20 | | 29 / 0.82 | | | 0.16 | | | | 29 | 339 | | 5- | | DWR |
| Jul 11 1130 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 9 1205 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 13 1145 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 11 1300 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 14 1100 | Est 40 | 50 | 8.4 | 74 | 317 | 8.4 | 42 / 2.10 | 8 / 0.56 | 14 / 0.61 | 10.5 / 0.269 | 0 / 0.00 | 146 / 2.40 | 29 / 0.60 | 17 / 0.48 | 0 / 0 | | 0.06 | | | 247 | 20 | 139 | | 800 | | DWR |
| Dec 13 1230 | Est 1 | 57 | 9.6 | 93 | 729 | 8.0 | | | | | 0 / 0.00 | 259 / 4.25 | | 39 / 1.10 | | | 0.10 | | | | 36 | 233 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 1460 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 60 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Chino Creek near Chino | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1250 | Est 0.1 | 59 | 11.0 | 108 | 885 | 8.3 | | | | | 0/0.00 | 351/5.75 | | 30/0.85 | | | 0.08 | | | | 27 | 332 | | -5 | | DWR |
| Feb 15 1400 | Est 1 | 59 | 8.4 | 83 | 908 | 7.6 | | | | | 0/0.00 | 348/5.70 | | 41/1.16 | | | 0.12 | | | | 30 | 309 | | 12 | | DWR |
| Mar 6 1245 | Est 1 | 64 | 7.2 | 75 | 871 | 7.8 | | | | | 0/0.00 | 345/5.66 | | 40/1.13 | | | 0.06 | | | | 33 | 294 | | 5 | | DWR |
| Apr 10 1330 | Est 1 | 63 | 8.0 | 82 | 694 | 8.0 | | | | | 7/0.23 | 282/4.62 | | 32/0.90 | | | 0.07 | | | | 33 | 233 | | 45 | | DWR |
| May 7 1100 | Est 1 | 64 | 9.0 | 94 | 919 | 8.2 | 96/4.79 | 28/2.30 | 65/2.83 | 6.5/0.166 | 0/0.00 | 407/6.68 | 112/2.33 | 37/1.04 | 9.30/0.150 | 0.4/0.021 | 0.13 | 25 | $NH_4$ 3.8; $PO_4$ 4.0 Sn 0.0; (a) | 587[b] | 28 | 354 | 20 | -5 | | DWR |
| June 12 1150 | No Flow | 82 | 12.2 | 153 | 956 | 8.4 | | | | | 29/0.97 | 354/5.80 | | 41/1.16 | | | 0.00 | | | | 31 | 358 | | -5 | | DWR |
| July 16 1100 | " | 79 | 9.0 | 110 | 1088 | 8.3 | | | | | 0/0.00 | 410/6.72 | | 42/1.18 | | | 0.22 | | | | 28 | 410 | | -5 | | DWR |
| Aug 7 1230 | " | 82 | 10.6 | 134 | 737 | 8.2 | | | | | 0/0.00 | 361/5.92 | | 31/0.87 | | | 0.08 | | | | 30 | 226 | | 100 | | DWR |
| Sept 12 1620 | " | 68 | 9.4 | 102 | 760 | 8.0 | 70/3.49 | 19/1.56 | 52/2.26 | 31.5/0.806 | 0/0.00 | 346/5.68 | 62/1.30 | 35/0.99 | 12/0.193 | 0.6/0.032 | 0.03 | 20 | $PO_4$ 1.8; (a) | 526[c] | 28 | 252 | 252 | 20 | | DWR |
| Oct 8 1540 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 8 1220 | Est 0.01 | 67 | 12.5 | 134 | 867 | 8.9 | | | | | 0/0.00 | 410/6.72 | | 38/1.07 | | | 0.18 | | | | 31 | 297 | | 15 | | DWR |
| Dec 11 1300 | Est 0.04 | 50 | 10.6 | 94 | 862 | 8.0 | | | | | 0/0.00 | 364/5.97 | | 49/1.38 | | | | | | | 30 | 339 | | 20 | median 235 minimum 2.3 maximum 24,000 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1955 | | | | | | | | | | | Lake Elsinore near Elsinore (North Shore) | | | | | | | | | | | | | | | |
| Jan 17 1215 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 14 1215 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar 14 1200 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 11 1300 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 16 1210 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| June 7 1150 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| July 18 1205 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 1215 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept 9 1135 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 17 1230 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 14 1200 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 19 1200 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Lake Elsinore near Elsinore (North Shore) | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1145 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Feb 6 1205 | | 55 | 9.6 | 91 | 15873 | 8.9 | | | | | 130 / 4.33 | 571 / 9.36 | | 4060 / 114.49 | | | 4.2 | | | | 99 | 50 | | -5 | | DWR |
| Mar 12 1200 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Apr 16 1205 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| May 7 1135 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| June 18 1145 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| July 16 1200 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Aug 13 1150 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Sept 17 1110 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Oct 8 1010 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Nov 7 1230 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Dec 10 0910 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 0.45 - | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.45 - | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 0.45 - | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{a00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Santa Ana River near Arlington** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1958 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1[illegible] | 1[illegible] | [illegible] | 11.6 | 1[illegible] | 1,031 | 8.1 | | | | | 14 / 0.47 | 211 / 3.4[illegible] | | [illegible] / [illegible].31 | | | 0.18 | | | [illegible] | 35 | 328 | | 15 | | [illegible] |
| [illegible] 1[illegible] | 1[illegible] | 55 | 11.6 | 1[illegible] | 1,[illegible] | 8.4 | | | | | 12 / 0.4[illegible] | 176 / [illegible] | | [illegible] / [illegible] | | | 0.13 | | | [illegible] | 36 | 342 | | 55 | | [illegible] |
| [illegible] 1[illegible] | 1[illegible] | 57 | 11.[illegible] | 1[illegible] | 1,[illegible] | 8.4 | | | | | [illegible] / [illegible] | 17[illegible] / [illegible] | | [illegible] / [illegible] | | | 0.16 | | | [illegible] | 38 | 329 | | 5– | | [illegible] |
| [illegible] 1[illegible] | 1[illegible] | 57 | 12.6 | 121 | 1,[illegible] | 8.4 | | | | | 19 / [illegible] | 1[illegible] / 3.64 | | [illegible] / [illegible] | | | 0.1[illegible] | | | [illegible] | 36 | 342 | | 5– | | [illegible] |
| [illegible] 1[illegible] | 1[illegible] | 64 | 11.0 | 115 | 1,[illegible] | 8.4 | [illegible] / [illegible].74 | [illegible] / [illegible] | [illegible] / [illegible].5 | [illegible] / [illegible].1 | 1[illegible] / [illegible].40 | 161 / [illegible].64 | [illegible] / [illegible].9 | [illegible] / [illegible].1 | [illegible] / [illegible] | 0.5 / 0.03 | 0.1[illegible] | 1[illegible] | (a) | 7[illegible] | 37 | 340 | 1[illegible] | 5– | | [illegible] |
| [illegible] 1[illegible] | 1[illegible] | 68 | 10.0 | 109 | 1,[illegible] | 8.4 | 1[illegible] / 0.40 | | | | | 17[illegible] / [illegible] | | [illegible] / [illegible] | | | [illegible] | | | [illegible] | 37 | 339 | | 5– | | [illegible] |
| [illegible] 11 1[illegible] | [illegible] | 75 | 13.4 | 157 | [illegible]1 | 8.4 | 17 / 0.8[illegible] | | | | | .71 / [illegible].44 | | 1[illegible] / [illegible] | | | 0.25 | | | [illegible] | 36 | 292 | | 5– | | [illegible] |
| [illegible] 7 1[illegible] | 1[illegible] | 73 | 9.0 | 103 | 1,033 | 8.4 | | | | | | 146 / [illegible].39 | | 105 / [illegible].96 | | | 0.12 | | | [illegible] | 35 | 337 | | 5– | | [illegible] |
| [illegible] | [illegible] determined | | | | | | | | | | | | | | | | | | | | | | | | median 23 minimum 2.3 maximum 62 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen % Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Santa Ana River below Prado Dam | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1225 | 241 | 52 | 12.0 | 102 | 964 | 8.1 | | | | | 7 / 0.23 | 243 / 3.98 | | 77 / 2.17 | | | 0.26 | | | | 34 | 309 | | 200 | | DWR |
| Feb 8 [illegible] | 176 | 55 | 12.0 | 113 | 1,002 | 8.4 | | | | | 14 / 0.47 | 215 / 3.52 | | 86 / 2.43 | | | 0.22 | | | | 35 | 329 | | 20 | | DWR |
| Mar 7 1445 | 212 | 59 | 11.6 | 114 | 1,033 | 8.4 | | | | | 14 / 0.47 | 183 / 3.00 | | 84 / 2.37 | | | 0.20 | | | | 36 | 327 | | 5- | | DWR |
| Apr 4 1035 | 121 | 59 | 11.4 | 112 | 1,042 | 8.4 | | | | | 14 / 0.47 | 207 / 3.39 | | 89 / 2.51 | | | 0.14 | | | | 35 | 342 | | 12 | | DWR |
| May 9 1130 | 224 | 66 | 10.8 | 115 | 939 | 8.4 | 94 / 4.69 | 26 / 2.14 | 85 / 3.70 | 5.1 / 0.13 | 12 / 0.40 | 200 / 3.28 | 229 / 4.77 | 86 / 2.43 | 6.4 / 0.10 | 0.5 / 0.03 | 0.14 | 12 | (a) | 675[c] | 35 | 342 | 158 | 14 | | DWR |
| Jun 7 1150 | 147 | 68 | 9.4 | 105 | 962 | 8.4 | | | | | 10 / 0.33 | 220 / 3.61 | | 90 / 2.54 | | | 0.22 | | | | 35 | 339 | | 5- | | DWR |
| Jul 11 1300 | 59 | 75 | 8.0 | 94 | 879 | 8.4 | | | | | 7 / 0.23 | 239 / 3.92 | | 102 / 2.88 | | | 0.28 | | | | 39 | 275 | | 11 | | DWR |
| Aug 9 1445 | 188 | 75 | 9.8 | 103 | 1,095 | 8.4 | | | | | 10 / 0.33 | 149 / 2.44 | | 109 / 3.07 | | | 0.58 | | | | 34 | 339 | | 5- | | DWR |
| Sep 13 1465 | 35 | 75 | 9.4 | 120 | 914 | 8.4 | 97 / 4.84 | 21 / 1.73 | 84 / 3.65 | 5.1 / .131 | 0.0 / 0.0 | 288 / 4.72 | 105 / 2.19 | 102 / 2.91 | 14.9 / 0.240 | 0.7 / 0.037 | 0.46 | 30 | $PO_4$ 2.2; (a) | 608[c] | 35 | 329 | 93 | 6 | | DWR |
| Oct 11 [illegible] | 46 | 55 | 8.0 | 76 | 978 | 8.2 | | | | | 18 / 0.60 | 240 / 3.93 | | 99 / 2.79 | | | 0.40 | | | | 37 | 310 | | 5- | | DWR |
| Nov 7 1115 | 45 | 59 | 9.6 | 95 | 981 | 8.4 | | | | | 12 / 0.40 | 268 / 4.39 | | 97 / 2.74 | | | 0.25 | | | | 34 | 319 | | 5- | | DWR |
| Dec 13 1340 | 68 | 57 | 11.4 | 110 | 961 | 8.2 | | | | | 10 / 0.33 | 261 / 4.28 | | 96 / 2.71 | | | 0.24 | | | | 34 | 323 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 1.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 240 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Santa Ana River below Prado Dam | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1310 | 203 | 52 | 10.6 | 96 | 1130 | 8.3 | | | | | 0 / 0.00 | 198 / 3.25 | | 97 / 2.74 | | | 0.14 | | | | 38 | 349 | | -5 | | DWR |
| Feb 15 1440 | 87 | 59 | 9.2 | 91 | 1043 | 8.0 | | | | | 0 / 0.00 | 303 / 4.97 | | 98 / 2.77 | | | 0.41 | | | | 32 | 342 | | 46 | | DWR |
| Mar 6 1310 | 74 | 63 | 9.6 | 99 | 961 | 8.4 | | | | | 0 / 0.00 | 317 / 5.20 | | 95 / 2.68 | | | 0.28 | | | | 31 | 344 | | 6 | | DWR |
| Apr 10 1400 | 54 | 61 | 9.0 | 90 | 1063 | 8.3 | | | | | 0 / 0.00 | 318 / 5.21 | | 106 / 2.99 | | | 0.19 | | | | 32 | 347 | | 7 | | DWR |
| May 15 1550 | 51 | 80 | 9.4 | 116 | 1027 | 8.4 | 102 / 5.09 | 24 / 1.97 | 80 / 3.48 | 10.0 / 0.256 | 19 / 0.64 | 288 / 4.72 | 108 / 2.24 | 105 / 2.96 | 7.5 / 0.121 | 0.6 / 0.032 | 0.26 | 30 | $PO_4$ 0.5; (a) | 631[b] | 32 | 357 | 89 | 25 | | DWR |
| June 12 1215 | 62 | 75 | 9.4 | 110 | 1035 | 8.3 | | | | | 0 / 0.00 | 317 / 5.20 | | 105 / 2.96 | | | 0.05 | | | | 32 | 349 | | -5 | | DWR |
| July 10 1200 | 45 | 75 | 9.6 | 112 | 1002 | 8.3 | | | | | 0 / 0.00 | 315 / 5.16 | | 107 / 3.02 | | | 0.27 | | | | 33 | 339 | | -5 | | DWR |
| Aug 7 1300 | 34 | 77 | 10.0 | 119 | 990 | 8.4 | 100 / 4.99 | 22 / 1.81 | 74 / 3.22 | 4.0 / 0.102 | 0 / 0.00 | 315 / 5.16 | 96 / 2.01 | 103 / 2.90 | 9.1 / 0.148 | 0.8 / 0.042 | 0.12 | 25 | | 648 | 32 | 341 | | -5 | | DWR |
| Sept 12 1100 | 104 | 68 | 9.0 | 98 | 1130 | 8.2 | 95 / 4.74 | 31 / 2.55 | 100 / 4.35 | 4.6 / 0.118 | 12 / 0.40 | 224 / 3.68 | 238 / 4.96 | 108 / 3.05 | 4.2 / 0.068 | 0.8 / 0.042 | 0.08 | 15 | $PO_4$ 0.4; (a) | 759[c] | 37 | 365 | 161 | -5 | | DWR |
| Oct 8 1600 | 188 | 72 | 9.2 | 104 | 1165 | 8.4 | 95 / 4.74 | 33 / 2.72 | 108 / 4.70 | 4.5 / 0.138 | 0 / 0.00 | 195 / 3.20 | 289 / 6.03 | 110 / 3.10 | 10.3 / 0.166 | 0.8 / 0.042 | 0.18 | 20 | | 816 | 39 | 370 | | 9 | | DWR |
| Nov 8 1250 | 46 | 67 | 9.0 | 96 | 1026 | 8.5 | 100 / 4.99 | 24 / 1.97 | 83 / 3.63 | 4.2 / 0.107 | 0 / 0.00 | 317 / 5.20 | 109 / 2.28 | 106 / 2.99 | 13.0 / 0.210 | 0.6 / 0.032 | 0.22 | 25 | | 670[c] | 35 | 349 | | -5 | | DWR |
| Dec 11 1330 | 44 | 54 | 10.4 | 96 | 925 | 8.1 | 95 / 4.74 | 25 / 2.06 | 82 / 3.57 | 4.9 / 0.125 | 0 / 0.00 | 312 / 5.12 | 104 / 2.17 | 103 / 2.90 | 14.0 / 0.226 | 0.8 / 0.042 | 0.24 | 30 | | 615[c] | 34 | 339 | | -5 | median 62 minimum 2.3 maximum 7000 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Santa Ana River near Mentone | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1600 | 79 | 38 | 12.0 | 99 | 233 | 8.0 | | | | | 4 / 0.12 | 134 / 2.20 | | 4 / 0.113 | | | 0.02 | | | | 26 | 88 | | 5- | | DWR |
| Feb 8 1600 | Est 75 | 43 | 13.6 | 110 | 230 | 8.2 | | | | | 2 / 0.07 | 110 / 1.80 | | 2 / 0.056 | | | 0.10 | | | | 26 | 89 | | 5- | | DWR |
| Mar 8 1605 | Est 33 | 48 | 12.4 | 107 | 227 | 8.4 | | | | | 5 / 0.17 | 105 / 1.72 | | 4 / 0.113 | | | 0.02 | | | | 26 | 81 | | 5- | | DWR |
| Apr 4 1530 | Est 40 | 46 | 12.2 | 103 | 221 | 8.0 | | | | | 0 / 0.00 | 117 / 1.92 | | 5 / 0.141 | | | 0.04 | | | | 26 | 81 | | 5- | | DWR |
| May 9 1535 | Est 38 | 52 | 12.0 | 108 | 185 | 8.4 | 23 / 1.15 | 4 / 0.33 | 12 / 0.52 | 1.8 / 0.05 | 5 / 0.16 | 100 / 1.64 | 11 / 0.22 | 3 / 0.08 | 0 / 0.0 | 0.5 / 0.03 | 0.02 | 20 | (a) | 115[c] | 25 | 74 | 0 | 5- | | DWR |
| Jun 7 1435 | Est 31 | 61 | 10.0 | 100 | 228 | 8.2 | | | | | 5 / 0.17 | 112 / 1.84 | | 5 / 0.141 | | | 0.04 | | | | 16 | 89 | | 5- | | DWR |
| Jul 11 1700 | 31 | 59 | 9.8 | 99 | 230 | 8.4 | | | | | 2 / 0.07 | 117 / 1.92 | | 6 / 0.169 | | | 0.10 | | | | 25 | 87 | | 5- | | DWR |
| Aug 17 1550 | 48 | 64 | 9.0 | 94 | 204 | 8.4 | | | | | | 110 / 1.80 | | 16 / 0.45 | | | 0.0 | | | | 18 | 86 | | 12 | | DWR |
| Sep 13 1510 | Est 46 | 63 | 9.6 | 99 | 227 | 8.4 | 33 / 1.65 | 1 / 0.08 | 12 / 0.52 | 1.8 / 0.046 | 0.0 / 0.0 | 117 / 1.92 | 8 / 0.16 | 5 / 0.14 | 2.0 / 0.032 | 0.2 / 0.011 | 0.04 | 12 | $PO_4$ 0.2; (a) | 137[c] | 23 | 87 | 0 | 14 | | DWR |
| Oct 10 1420 | Est 42 | 54 | 9.4 | 87 | 233 | 8.2 | | | | | | 117 / 1.92 | | 6 / 0.169 | | | 0.14 | | | | 25 | 86 | | 5- | | DWR |
| Nov 7 1400 | Est 31 | 52 | 10.0 | 90 | 235 | 8.3 | | | | | 0 / 0.00 | 127 / 2.08 | | 5 / 0.141 | | | 0.10 | | | | 24 | 88 | | 25 | | DWR |
| Dec 12 1600 | Est 22 | 46 | 10.6 | 89 | 249 | 8.4 | | | | | 0 / 0.00 | 120 / 1.97 | | 5 / 0.141 | | | 0 | | | | 25 | 90 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 4.5 minimum .60 maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Santa Ana River near Mentone | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1530 | Est 36 | 45 | 11.4 | 94 | 243 | 8.2 | | | | | 5 / 0.17 | 110 / 1.80 | | 4 / 0.113 | | | 0.04 | | | | 26 | 86 | | -5 | | DWR |
| Feb 15 1645 | Est 36 | 43 | 11.2 | 97 | 231 | 8.0 | | | | | 0 / 0.00 | 112 / 1.84 | | 5 / 0.141 | | | 0.14 | | | | 27 | 81 | | -5 | | DWR |
| Mar 13 1730 | Est 36 | 45 | 11.0 | 92 | 235 | 8.0 | | | | | 0 / 0.00 | 102 / 1.67 | | 6 / 0.169 | | | 0.07 | | | | 26 | 86 | | -5 | | DWR |
| Apr 10 1610 | Est 29 | 50 | 9.6 | 85 | 251 | 8.0 | | | | | 2 / 0.07 | 117 / 1.92 | | 6 / 0.17 | | | 0.12 | | | | 28 | 84 | | -5 | | DWR |
| May 8 1600 | Est 30 | 50 | 10.4 | 92 | 231 | 8.2 | 24 / 1.20 | 7 / 0.58 | 15 / 0.65 | 1.8 / 0.046 | 0 / 0.00 | 117 / 1.92 | 18 / 0.38 | 5 / 0.14 | 0.70 / 0.011 | 0.6 / 0.032 | 0.02 | 20 | $PO_4$ 0.00 | 151[b] | 26 | 89 | 0 | -5 | | DWR |
| June 12 composite | Est 34 | 59 | 10.4 | 101.5 | 247 | 8.3 | | | | | 0 / 0.00 | 132 / 2.16 | | 5 / 0.14 | | | 0.00 | | | | 23 | 97 | | -5 | | DWR |
| July 10 1445 | Est 30 | 63 | 10.2 | 105 | 260 | 8.3 | | | | | 0 / 0.00 | 139 / 2.28 | | 6 / 0.17 | | | 0.08 | | | | 22 | 103 | | -5 | | DWR |
| Aug 14 1605 | Est 38 | 61 | 10.0 | 100 | 280 | 8.2 | | | | | 0 / 0.00 | 142 / 2.33 | | 7 / 0.20 | | | 0.06 | | | | 24 | 101 | | 5 | | DWR |
| Sept 12 1610 | Est 40 | 64 | 9.2 | 97 | 284 | 8.0 | 26 / 1.30 | 10 / 0.82 | 15 / 0.65 | 2.6 / 0.066 | 0 / 0.00 | 173 / 2.40 | 9 / 0.18 | 7 / 0.20 | 0.15 / 0.002 | 0.7 / 0.037 | 0.00 | 10 | $PO_4$ 0.3; (a) | 175[c] | 23 | 106 | 0 | -5 | | DWR |
| Oct 8 1910 | 38 | 55 | 9.0 | 85 | 277 | 8.2 | | | | | 0 / 0.00 | 154 / 2.52 | | 7 / 0.20 | | | 0.15 | | | | 21 | 113 | | -5 | | DWR |
| Nov 8 1650 | Est 38 | 54 | 9.0 | 83 | 288 | 8.7 | | | | | 0 / 0.00 | 139 / 2.28 | | 16 / 0.45 | | | 0.12 | | | | 24 | 109 | | 5 | | DWR |
| Dec 11 1610 | Est 32 | 43 | 13.0 | 104 | 241 | 8.2 | | | | | 5 / 0.167 | 120 / 1.97 | | 6 / 0.169 | | | 0.06 | | | | 28 | 89 | | -5 | median 4.5 - minimum 0.6 maximum 240 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Santa Ana River at Riverside (MWD Blowoff) | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1445 | Est 40 | 61 | 9.0 | 91 | 948 | 7.1 | | | | | 18 / 0.60 | 281 / 4.61 | | 93 / 2.62 | | | 0.16 | | | | 30 | 337 | | 2 | | DWR |
| Feb 8 1430 | Est 40 | 66 | 9.8 | 104 | 952 | 8.4 | | | | | 0 / 0.00 | 315 / 5.16 | | 90 / 2.54 | | | 0.14 | | | | 31 | 337 | | 5- | | DWR |
| Mar 8 1435 | Est 35 | 63 | 9.6 | 104 | 947 | 8.3 | | | | | 14 / 0.47 | 268 / 4.39 | | 95 / 2.68 | | | 0.20 | | | | 33 | 325 | | 5- | | DWR |
| Apr 4 1340 | Est 30 | 66 | 10.2 | 109 | 1,000 | 8.3 | | | | | 0 / 0.00 | 325 / 5.33 | | 98 / 2.77 | | | 0.18 | | | | 31 | 344 | | 5- | | DWR |
| May 9 1345 | Est 30 | 72 | 9.0 | 102 | 901 | 8.3 | 109 / 5.44 | 18 / 1.48 | 74 / 3.22 | 5.0 / 0.13 | 0 / 0.00 | 337 / 5.52 | 88 / 1.83 | 89 / 2.51 | 17 / 0.27 | 0.7 / 0.04 | 0.14 | 25 | (a) | 615[c] | 31 | 346 | 70 | 5- | | DWR |
| Jun 7 1300 | Est 40 | 79 | 8.4 | 97 | 877 | 8.0 | | | | | 12 / 0.40 | 293 / 4.80 | | 95 / 2.68 | | | 0.20 | | | | 31 | 333 | | 5- | | DWR |
| Jul 11 1355 | Est 35 | 75 | 8.8 | 103 | 836 | 8.3 | | | | | 0 / 0.00 | 320 / 5.25 | | 97 / 2.74 | | | 0.18 | | | | 37 | 279 | | 5- | | DWR |
| Aug 9 1330 | Est 25 | 75 | 9.4 | 110 | 926 | 8.4 | | | | | | 305 / 5.00 | | 109 / 3.07 | | | 0.0 | | | | 27 | 337 | | 5- | | DWR |
| Sep 13 1345 | 25 | 73 | 8.0 | 104 | 906 | 8.4 | 106 / 5.29 | 18 / 1.48 | 72 / 3.13 | 4.5 / 0.115 | 0.0 / 0.0 | 305 / 5.00 | 72 / 1.49 | 102 / 2.89 | 19.8 / 0.320 | 0.8 / 0.042 | 0.16 | 30 | $PO_4$ 0.02; (a) | 611[c] | 31 | 339 | 89 | 5- | | DWR |
| Oct 11 1145 | 30 | 59 | 8.4 | 83 | 983 | 8.0 | | | | | | 292 / 4.79 | | 99 / 2.79 | | | 0.12 | | | | 33 | 334 | | 5- | | DWR |
| Nov 7 1355 | Est 25 | 66 | 9.4 | 100 | 962 | 8.0 | | | | | 0 / 0.00 | 305 / 5.00 | | 95 / 2.68 | | | 0.22 | | | | 29 | 330 | | 5- | | DWR |
| Dec 13 1500 | Est 35 | 64 | 8.0 | 84 | 968 | 8.0 | | | | | 0 / 0.00 | 307 / 5.03 | | 96 / 2.71 | | | 0.10 | | | | 29 | 354 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 62 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 1300 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Santa Ana River at Riverside (MWD Blowoff) | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1430 | Est 35 | 63 | 9.0 | 92 | 961 | 8.0 | | | | | 0 / 0.00 | 310 / 5.08 | | 93 / 2.62 | | | 0.10 | | | | 30 | 340 | | -5 | | DWR |
| Feb 15 1515 | 30 | 57 | 8.8 | 85 | 1015 | 8.0 | | | | | 10 / 0.33 | 295 / 4.84 | | 96 / 2.71 | | | 0.30 | | | | 29 | 349 | | -5 | | DWR |
| Mar 6 1450 | 52 | 61 | 9.2 | 93 | 993 | 8.2 | | | | | 0 / 0.00 | 322 / 5.28 | | 100 / 2.82 | | | 0.04 | | | | 30 | 353 | | -5 | | DWR |
| Apr 10 1510 | Est 35 | 63 | 9.2 | 94 | 957 | 8.0 | | | | | 0 / 0.00 | 309 / 5.06 | | 99 / 2.79 | | | 0.08 | | | | 32 | 321 | | -5 | | DWR |
| May 15 1300 | Est 40 | 80 | 9.8 | 121 | 877 | 8.1 | 102 / 5.09 | 24 / 1.97 | 72 / 3.13 | 10.0 / 0.256 | 0 / 0.00 | 329 / 5.40 | 88 / 1.84 | 97 / 2.74 | 15.0 / 0.242 | 0.8 / 0.042 | 0.26 | 30 | $PO_4$ 0.2 ; (a) | 604[b] | 30 | 353 | 83 | -5 | | DWR |
| June 12 1400 | Est 30 | 79 | 8.6 | 105 | 912 | 8.2 | | | | | 0 / 0.00 | 285 / 4.67 | | 102 / 2.88 | | | 0.25 | | | | 33 | 309 | | -5 | | DWR |
| July 10 1440 | Est 25 | 79 | 9.2 | 112 | 951 | 8.2 | | | | | 0 / 0.00 | 322 / 5.28 | | 95 / 2.68 | | | 0.13 | | | | 31 | 3[illegible] | | -5 | | DWR |
| Aug 7 1420 | Est 25 | 75 | 9.4 | 110 | 904 | 8.2 | | | | | 0 / 0.00 | 322 / 5.28 | | 96 / 2.71 | | | 0.06 | | | | 31 | 345 | | -5 | | DWR |
| Sept 12 1345 | 87 | 75 | 8.4 | 98 | 903 | 7.8 | 95 / 4.74 | 24 / 1.97 | 72 / 3.13 | 3.9 / 0.10 | 0 / 0.00 | 327 / 5.36 | 81 / 1.68 | 94 / 2.65 | 14.5 / 0.234 | 0.8 / 0.042 | 0.05 | 25 | $PO_4$ 0.0 ; (a) | 593[c] | 32 | 336 | 68 | -5 | | DWR |
| Oct 8 1710 | Est 25 | 64 | 9.4 | 99 | 902 | 8.0 | | | | | 0 / 0.00 | 310 / 5.08 | | 95 / 2.68 | | | 0.15 | | | | 32 | 329 | | -5 | | DWR |
| Nov 8 1530 | Est 60 | 69 | 8.5 | 94 | 914 | 8.3 | | | | | 0 / 0.00 | 278 / 4.56 | | 94 / 2.65 | | | 0.09 | | | | 33 | 311 | | -5 | | DWR |
| Dec 11 1445 | 28 | 61 | 11.4 | 115 | 906 | 7.9 | | | | | 0 / 0.00 | 290 / 4.75 | | 94 / 2.65 | | | 0.10 | | | | 30 | 339 | | -5 | median 42 | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 5.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| Santa Ana River at Norco | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1966 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 19 1200 | Est 50 | 56 | 7.0 | 92 | 934 | 8.4 | 96 / 4.79 | 16 / 1.32 | 90 / 3.92 | 7.2 / 0.184 | 0.0 / 0.0 | 283 / 4.64 | 91 / 1.90 | 110 / 3.11 | 20.8 / 0.336 | 0.8 / 0.042 | 0.54 | 30 | $PO_4$ 4.2; (a) | 614[c] | 38 | 306 | 74 | 5- | | DWR |
| Oct 11 1200 | 27 | 57 | 6.8 | 66 | 1,012 | 8.1 | | | | | | 221 / 4.61 | | 108 / 3.05 | | | 0.46 | | | | 42 | 306 | | 5- | | DWR |
| Nov 7 1200 | Est 30 | 64 | 8.6 | 9[illegible] | 1,009 | 8.2 | | | | | 10 / 0.33 | 276 / 4.52 | | 107 / 3.02 | | | 0.40 | | | | 37 | 313 | | 5- | | DWR |
| Dec 13 1415 | Est 50 | 63 | 7.4 | 76 | 1,018 | 8.2 | | | | | 0 / 0.00 | 288 / 4.72 | | 104 / 2.93 | | | 0.24 | | | | 36 | 326 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 240 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Santa Ana River at Norco | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 10 1400 | Est 195 | 54 | 9.6 | 89 | 1175 | 8.1 | | | | | 0 / 0.00 | 178 / 2.92 | | 102 / 2.88 | | | 0.10 | | | | 39 | 361 | | -5 | | DWR |
| Feb 15 1500 | Est 50 | 57 | 7.4 | 71 | 1088 | 7.9 | | | | | 0 / 0.00 | 307 / 5.03 | | 114 / 3.21 | | | 0.42 | | | | 35 | 338 | | -5 | | DWR |
| Mar 6 1400 | 33 | 64 | 9.2 | 96 | 1066 | 8.2 | | | | | 19 / 0.63 | 281 / 4.61 | | 113 / 3.19 | | | 0.26 | | | | 33 | 357 | | -5 | | DWR |
| Apr 10 1430 | 22 | 63 | 9.2 | 94 | 1078 | 8.3 | | | | | 19 / 0.63 | 285 / 4.67 | | 116 / 3.27 | | | 0.02 | | | | 34 | 355 | | -5 | | DWR |
| May 15 1440 | Est 50 | 85 | 8.3 | 108 | 1046 | 8.4 | 108 / 5.39 | 24 / 1.97 | 78 / 3.05 | 10.5 / 0.269 | 22 / 0.72 | 271 / 4.44 | 102 / 2.12 | 116 / 3.27 | 8.0 / 0.129 | 0.7 / 0.037 | 0.32 | 15 | $PO_4$ 1.6; (a) 2.7 | 622[b] | 29 | 363 | 105 | -5 | | DWR |
| June 12 1245 | 28 | 86 | 8.0 | 104.5 | 1080 | 8.3 | | | | | 0 / 0.00 | 305 / 5.00 | | 113 / 3.19 | | | 0.29 | | | | 35 | 341 | | -5 | | DWR |
| July 10 1245 | 24 | 86 | 8.6 | 113 | 1054 | 8.3 | | | | | 1 / [illegible] | [illegible] / 4.[illegible] | | 115 / 3.24 | | | 0.38 | | | | 36 | 341 | | -5 | | DWR |
| Aug 7 1330 | 22 | 86 | 8.4 | 110 | 1019 | 8.3 | | | | | 0 / 0.00 | 332 / 5.44 | | 91 / 2.57 | | | 0.20 | | | | 34 | 343 | | -5 | | DWR |
| Sept 12 1145 | 92 | 75 | 8.0 | 94 | 1174 | 7.9 | 97 / 4.84 | 32 / 2.63 | 108 / 4.70 | 5.2 / 0.133 | 7 / 0.24 | 215 / 3.16 | 272 / 5.67 | 112 / 3.16 | 4.0 / 0.064 | 0.8 / 0.042 | 0.15 | 15 | $PO_4$ 0.75; (a) | 819[c] | 38 | 374 | 204 | -5 | | DWR |
| Oct 8 1620 | 172 | 72 | 9.4 | 106 | 1250 | 8.2 | | | | | 0 / 0.00 | 182 / 2.98 | | 120 / 3.38 | | | 0.22 | | | | 39 | 386 | | -5 | | DWR |
| Nov 8 1400 | 33 | 73 | 8.0 | 92 | 1055 | 8.6 | | | | | 12 / 0.40 | 305 / 5.00 | | 115 / 3.24 | | | 0.30 | | | | 36 | 345 | | -5 | | DWR |
| Dec 11 1400 | 38 | 57 | 10.8 | 104 | 1027 | 7.9 | | | | | 0 / 0.00 | 315 / 5.16 | | 108 / 3.05 | | | 0.32 | | | | 37 | 335 | | -5 | median 42 minimum 2.3 maximum 2400 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Warm Creek at Colton** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1530 | 11 | 59 | 9.0 | 89 | 735 | 7.7 | | | | | 0 / 0.00 | 246 / 4.03 | | 46 / 1.30 | | | 0.06 | | | | 33 | 244 | | 5- | | DWR |
| Feb 9 1515 | 30 | 64 | 10.2 | 107 | 769 | 7.8 | | | | | 0 / 0.00 | 242 / 3.97 | | 35 / 0.99 | | | 0.26 | | | | 30 | 248 | | 5- | | DWR |
| Mar 8 1515 | 36 | 68 | 7.8 | 85 | 826 | 7.7 | | | | | 0 / 0.00 | 251 / 4.11 | | 45 / 1.27 | | | 0.24 | | | | 31 | 263 | | 18 | | DWR |
| Apr 4 1430 | 17 | 64 | 8.6 | 90 | 926 | 7.5 | | | | | 0 / 0.00 | 273 / 4.47 | | 60 / 1.69 | | | 0.38 | | | | 46 | 201 | | 20 | | DWR |
| May 9 1430 | 15 | 70 | 8.2 | 93 | 962 | 7.6 | 45 / 2.25 | 19 / 1.56 | 103 / 4.48 | 13.8 / 0.35 | 0 / 0.00 | 307 / 5.04 | 76 / 1.59 | 78 / 2.20 | 27 / 0.44 | 0.8 / 0.04 | 0.43 | 30 | $NH_4$ 17.6 (a) | 555[c] | 47 | 190 | 0 | 15 | | DWR |
| Jun 7 1400 | 18 | 77 | 7.0 | 84 | 877 | 7.2 | | | | | 0 / 0.00 | 259 / 4.25 | | 68 / 1.92 | | | 0.80 | | | | 54 | 157 | | 27 | | DWR |
| Jul 11 0800 | 18.2 | | 6.6 | | 825 | 7.5 | | | | | 0 / 0.00 | 193 / 3.16 | | 65 / 1.83 | | | 0.38 | | | | 45 | | | | | DWR |
| Aug 9 1515 | 7.4 | | | | 825 | 7.4 | | | | | 0 / 0.00 | 242 / 3.97 | | 89 / 2.51 | | | 1.08 | | | | 53 | 170 | | 8 | | DWR |
| Sep 14 0900 | 14.8 | | 3.8 | | 706 | 7.2[a] | 52 / 2.59 | 10 / 0.82 | 80 / 3.48 | 11.8 / 0.302 | 0.0 / 0.0 | 163 / 2.68 | 52 / 1.09 | 71 / 2.00 | 76 / 1.22 | 1.2 / 0.063 | 0.02 | 30 | $PO_4$ 27.5; (a) | 462[c] | 48 | 171 | 37 | 8 | | DWR |
| Oct 13 0820 | 10.9 | 70 | 3.2 | 36 | 815 | 7.3[a] | | | | | 0 / 0.00 | 212 / 3.47 | | 72 / 2.03 | | | 0.42 | | | | 54 | 156 | | 8 | | DWR |
| Nov 11 0820 | 8.1 | 70 | 3.1 | 35 | 847 | 7.4[a] | | | | | 0 / 0.00 | 210 / 3.44 | | 72 / 2.03 | | | 0.42 | | | | 52 | 163 | | 5- | | DWR |
| Dec 10 0810 | 4.1 est. | 70 | 3.1 | 35 | 920 | 7.3[a] | | | | | 0 / 0.00 | 229 / 3.75 | | 76 / 2.14 | | | 0.30 | | | | 49 | 161 | | 5 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2400 minimum 23 maximum 70,000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated.

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ NC ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Warm Creek at Colton | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 8 ** | 2.95 | 61 | 3.3 | 33 | 766 | 7.5* | 38 / 1.90 | 15 / 1.23 | 80 / 3.48 | 13.4 / 0.330 | 0 / 0.00 | 227 / 3.72 | 69 / 1.43 | 66 / 1.86 | 63 / 1.010 | 1.2 / 0.063 | 0.47 | | | 488 | 53 | 155 | | -5 | | DWR |
| Feb 6 ** | 7.5 | 57 | 3.0 | 29 | 806 | 7.4* | 61 / 3.04 | 21 / 1.73 | 69 / 3.00 | 10.4 / 0.266 | 0 / 0.00 | 273 / 4.47 | 87 / 1.81 | 66 / 1.86 | 56 / 0.910 | 1.0 / 0.053 | 0.22 | | | 466 | 27 | 238 | | 10 | | DWR |
| Mar 13 ** | 9.1 | 57 | | | 900 | 7.4* | 63 / 3.14 | 11 / 0.90 | 74 / 3.22 | 11.4 / 0.292 | 0 / 0.00 | 261 / 4.28 | 63 / 1.32 | 83 / 2.34 | 39.7 / 0.640 | 1.0 / 0.053 | 0.02 | | | 553 | 44 | 202 | | 20 | | DWR |
| Apr 11 ** | 7.10 | 69 | | | 946 | 7.1* | 49 / 2.45 | 11 / 0.90 | 92 / 4.00 | 15.9 / 0.407 | 0 / 0.00 | 251 / 4.11 | 60 / 1.25 | 83 / 2.34 | 63 / 1.016 | 2.0 / 0.105 | 0.35 | | | 538 | 55 | 166 | | 16 | | DWR |
| May 10 ** | 8.1 | 66 | | | 803 | 7.5* | 48 / 2.40 | 13 / 1.07 | 72 / 3.13 | 14.7 / 0.376 | 0 / 0.00 | 268 / 4.40 | 51 / 1.06 | 71 / 2.00 | 10.3 / 0.165 | 1.0 / 0.053 | 0.35 | 25 | $NH_4$ 12.0; $PO_4$ 23.0; | 463[b] | 41 | 173 | 0 | 160 | | DWR |
| June 8 ** | .1 est. | 75 | | | 831 | 6.9* | 51 / 2.54 | 11 / 0.90 | 87 / 3.78 | 13.2 / 0.338 | 0 / 0.00 | 210 / 3.44 | 58 / 1.21 | 77 / 2.17 | 50 / 0.807 | 1.4 / 0.074 | 0.37 | 30 | | 503 | 52 | 175 | | -5 | | DWR |
| July 7 ** | 5.1 | 77 | | | 756 | 7.1* | 47 / 2.35 | 13 / 1.07 | 82 / 3.57 | 13.2 / 0.338 | [illegible] / 0.00 | [illegible] / 3.[illegible] | 57 / 1.19 | 68 / 1.92 | 46.3 / 0.747 | 1.2 / 0.063 | 0.[illegible] | 25 | | 484 | 49 | 170 | | -5 | | DWR |
| Aug 12 ** | 3.4 | 7[illegible] | [illegible].2 | 36 | 7[illegible] | 7.2* | 46 / 2.30 | 15 / 1.25 | 6[illegible] / 2.96 | 1[illegible].0 / .307 | [illegible] / 0.00 | 1[illegible] / 3.0[illegible] | [illegible] / 1.21 | 38 / 1.07 | 9[illegible] / 1.51[illegible] | 0.8 / 0.[illegible] | 0.20 | 30 | | 485 | 46 | 176 | | -5 | | DWR |
| Sept 10 ** | 4.2 | | | | 829 | 7.5* | 43 / 2.15 | 17 / 1.40 | 89 / 3.87 | 11.1 / 0.284 | 0 / 0.00 | [illegible] / .56 | 5 / [illegible] | [illegible] / 2.31 | 12.0 / 0.19 | 0.8 / 0.042 | 0.26 | 30 | $NH_4$ 12.2; $PO_4$ 34; $Fe^4$ 0.1; (a) | 503[c] | 46 | 178 | 0 | -5 | | DWR |
| Oct 9 ** | 20.7 | 72 | 2.7 | 31 | 927 | 7.4* | 52 / 2.59 | 14 / 1.15 | 93 / 4.05 | 15.8 / 0.404 | 0 / 0.00 | 295 / 4.84 | 96 / 1.99 | 87 / 2.45 | 28.5 / 0.46 | 1.6 / 0.084 | 0.36 | 35 | $NH_4$ 18.0 (a) | 514 | 52 | 186 | | -5 | | DWR |
| Nov 14 ** | 6.0 | 69 | 9.0 | 83 | 963 | 7.1* | 48 / 2.40 | 15 / 1.23 | 108 / 4.70 | 12 / 0.307 | 0 / 0.00 | 261 / 4.28 | 68 / 1.42 | 97 / 2.74 | 42 / 0.677 | 1.2 / 0.063 | 0.33 | 30 | $NH_4$ 14.9; (a) | 573[c] | 57 | 180 | | -5 | | DWR |
| Dec 13 ** | 7 | 63 | 2.9 | 30 | 892 | 7.5* | 3[illegible] / 1.95 | 19 / 1.56 | 10[illegible] / 4.47 | 21 / 0.54 | 0 / 0.00 | 322 / 5.28 | 61 / 1.27 | 94 / 2.65 | 18.8 / 0.304 | 2.0 / 0.105 | 0.26 | 35 | $NH_4$ 25; (a) | 520[c] | 45 | 176 | | 20 | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2400 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 230 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 24,000 | |

** Composite
* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Warm Creek at San Bernardino | | | | | | | | | | | | | | | |
| 1.25 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 11 1945 | Est 15 | 59 | 7.2 | 77 | [illegible] | 7.3 | | | | | 18 / 0.60 | 246 / 4.03 | | 15 / 0.42 | | | 0.04 | | | | 16 | 274 | | 5- | | DWR |
| Feb 8 1945 | Est 15 | 64 | 9.0 | 94 | [illegible] | 8.0 | | | | | 7 / 0.23 | 227 / 3.72 | | 14 / 0.39 | | | 0.04 | | | | 18 | 263 | | 5- | | DWR |
| Mar 9 1945 | Est 15 | [illegible] | 7.2 | 77 | 651 | 8.0 | | | | | 0 / 0.00 | 256 / 4.20 | | 17 / 0.48 | | | 0.06 | | | | 16 | 284 | | 5- | | DWR |
| Apr 4 1945 | Est 15 | 64 | 8.0 | 85 | 610 | 8.0 | | | | | 12 / 0.40 | 220 / 3.61 | | 16 / 0.45 | | | 0.06 | | | | 18 | 261 | | 5- | | DWR |
| May 9 1945 | Est 14 | 72 | 7.4 | 84 | 597 | 8.0 | 86 / 4.24 | 17 / 1.40 | 25 / 1.09 | 5.0 / 0.13 | 0 / 0.00 | 283 / 4.64 | 77 / 1.61 | 17 / 0.48 | 1.5 / 0.02 | 0.5 / 0.03 | 0.04 | 20 | (a) | 385[c] | 16 | 282 | 50 | 20 | | DWR |
| Jun 7 1945 | Est 10 | 75 | 7.2 | 92 | 630 | 8.0 | | | | | 10 / 0.33 | 254 / 4.16 | | 18 / 0.51 | | | 0.12 | | | | 16 | 277 | | 5- | | DWR |
| Jul 11 0800 | No Record | | 7.4 | | 602 | 8.0 | | | | | 16 / 0.53 | 256 / 4.20 | | 17 / 0.48 | | | 0.06 | | | | 15 | | | | | DWR |
| Aug 9 0810 | " | | | | 562 | 8.4 | | | | | 0 / 0.00 | 261 / 4.28 | | 17 / 0.48 | | | 0.14 | | | | 15 | 275 | | 5- | | DWR |
| Sep 14 0900 | Est 1 | | 7.5 | | 561 | 7.9 | 86 / 4.29 | 17 / 1.40 | 23 / 1.00 | 4.1 / 0.105 | 0.0 / 0.0 | 273 / 4.48 | 72 / 1.50 | 19 / 0.54 | 7.9 / 0.128 | 0.6 / 0.032 | 0.04 | 20 | $PO_4$ 0.11; (a) | 379[c] | 15 | 285 | 61 | 5- | | DWR |
| Oct 1[illegible] 0900 | Est 1 | 64 | 8.2 | 96 | 592 | 8.0 | | | | | 0 / 0.00 | 237 / 3.88 | | 17 / 0.48 | | | 0.08 | | | | 17 | 238 | | 5- | | DWR |
| Nov 11 0900 | Est 1 | 57 | 8.6 | 93 | 603 | 8.0 | | | | | 0 / 0.00 | 254 / 4.16 | | 17 / 0.48 | | | 0.12 | | | | 15 | 262 | | 5- | | DWR |
| Dec 10 0300 | Est 1 | 59 | 7.8 | 77 | 641 | 7.6 | | | | | 0 / 0.00 | 281 / 4.61 | | 19 / 0.54 | | | 0.12 | | | | 15 | 288 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 180 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2400 | |
| Est. | | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated.

# TABLE 17
## ANALYSES OF SURFACE WATER

REGION 8

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **1956** | | | | | | | | | | | Warm Creek at San Bernardino | | | | | | | | | | | | | | | |
| Jan 8 ** | 1.5 | 57 | 8.0 | 77 | 642 | 8.1* | 73 / 3.64 | 23 / 1.89 | 26 / 1.13 | 4.3 / 0.110 | 0 / 0.00 | 271 / 4.44 | 75 / 1.56 | 20 / 0.56 | 10.9 / 0.176 | 0.4 / 0.021 | 0.03 | | | 381 | 17 | 279 | | -5 | | DWR |
| Feb 6 ** | No Record | | | | 712 | 7.9* | 87 / 4.34 | 21 / 1.73 | 29 / 1.26 | 4.0 / 0.102 | 0 / 0.00 | 283 / 4.64 | 99 / 2.07 | 22 / 0.62 | 4.6 / 0.074 | | 0.20 | | | 450 | 17 | 304 | | -5 | | DWR |
| Mar 13 ** | " | 54 | | | 680 | 7.8* | 78 / 3.89 | 24 / 1.97 | 29 / 1.26 | 3.7 / 0.095 | 0 / 0.00 | 285 / 4.67 | 93 / 1.94 | 24 / 0.67 | 6.9 / 0.112 | 0.5 / 0.026 | 0.02 | | | 430 | 17 | 294 | | -5 | | DWR |
| Apr 11 ** | " | 63 | | | 678 | 7.6* | 87 / 4.34 | 19 / 1.56 | 27 / 1.17 | 4.0 / 0.102 | 0 / 0.00 | 278 / 4.56 | 91 / 1.90 | 22 / 0.62 | 4.0 / 0.064 | 0.6 / 0.032 | 0.03 | | | 441 | 17 | 294 | | -5 | | DWR |
| May 10 ** | Est. 5.0 | 63 | | | 542 | 7.6* | 63 / 3.14 | 21 / 1.73 | 21 / 0.91 | 4.5 / 0.115 | 0 / 0.00 | 222 / 3.64 | 72 / 1.51 | 21 / 0.59 | 3.6 / 0.059 | 0.6 / 0.032 | 0.18 | 15 | $PO_4$ 0.1 | 333[b] | 16 | 244 | | 62 | | DWR |
| June 8 ** | Est. 1 | 66 | | | 654 | 7.8* | 90 / 4.49 | 18 / 1.48 | 26 / 1.13 | 3.9 / 0.10 | 0 / 0.00 | 285 / 4.67 | [illegible] / [illegible] | 20 / 0.56 | 3.3 / 0.053 | 0.6 / 0.032 | 0.02 | 20 | | 404 | 16 | 300 | | -5 | | DWR |
| July 7 ** | Est. 3.5 | 66 | | | 617 | 7.9* | 101 / 5.04 | 6 / 0.49 | 25 / 1.09 | 3.1 / 0.079 | 0 / 0.00 | 276 / 4.52 | 7[illegible] / [illegible] | 19 / 0.54 | 8.4 / 0.136 | 0.6 / 0.031 | 0.08 | 25 | | 416 | 15 | 279 | | -5 | | DWR |
| Aug 12 ** | No Record | | | | 629 | 7.9* | 65 / 3.24 | 32 / 2.63 | 22 / 0.96 | 3.6 / 0.092 | 0 / 0.00 | 288 / 4.72 | 71 / 1.47 | 19 / 0.54 | 4.0 / 0.064 | 0.6 / 0.032 | 0.00 | 20 | | 366 | 14 | 295 | | -5 | | DWR |
| Sept | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec | No Report | | | | | | | | | | | | | | | | | | | | | | | | | |

** Composite
* Lab pH

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Escondido Creek near Harmony Grove | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1960 | Est 1 | 50 | 9.6 | [illegible] | 1,111 | 7.8 | | | | | 0 / 0.00 | 176 / 2.88 | | 171 / 4.82 | | | 0.46 | | | | 60 | 198 | | 60 | | [illegible] |
| Feb 14 19[illegible] | Est 1 | 55 | 15.6 | 142 | 1,770 | [illegible].0 | | | | | 0 / 0.00 | 204 / 4.[illegible] | | 310 / 8.74 | | | 0.52 | | | | 61 | 364 | | 5- | | [illegible] |
| Mar 14 19[illegible] | Est 1 | [illegible] | [illegible].6 | 90 | 1,048 | [illegible].4 | | | | | 0 / 0.00 | 271 / 4.44 | | 286 / 8.07 | | | 0.56 | | | | 64 | 317 | | 35 | | [illegible] |
| Apr 11 1960 | Est 1 | 64 | [illegible] | 71 | [illegible] | 8.0 | | | | | 0 / 0.00 | [illegible] / 4.[illegible]7 | | 346 / 9.76 | | | [illegible].64 | | | | 64 | 3[illegible]3 | | 70 | | [illegible] |
| May 16 19[illegible]5 | Est 1 | [illegible] | 11.[illegible] | 114 | 1,[illegible] | 7.2 | 22 / 4.[illegible] | [illegible] / [illegible] | [illegible] / 2[illegible].[illegible] | 15. / 0.3[illegible] | 0 / [illegible] | [illegible] / 4.[illegible] | [illegible] / [illegible].[illegible] | [illegible] / 9.31 | 15.9 / [illegible] | 1.2 / 0.06 | 0.60 | 20 | (a) Zn 0.25 | 1,2[illegible] | 62 | 3[illegible] | 1[illegible] | 5- | | [illegible] |
| Jun 1[illegible] 1430 | Est [illegible] | 64 | 8.4 | [illegible] | [illegible] | [illegible] | | | | | 0 / [illegible] | [illegible] / [illegible].01 | | [illegible] / [illegible].01 | | | 0.78 | | | | 63 | 305 | | 25 | | [illegible] |
| Jul 18 1955 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 1930 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 19 1430 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 17 1600 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 14 1500 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 19 1445 | Est 1 | 52 | 5.0 | 45 | 1,090 | 7.3 | 81 / 4.40 | 42 / 3.45 | 278 / 12.09 | 15.4 / 0.3[illegible] | 0 / 0.00 | 205 / 3.36 | 226 / 0.80 | 317 / 8.94 | 52.1 / 0.8[illegible] | [illegible].8 / 0.04[illegible] | 0.42 | | | | 61 | 392 | | 5- | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Escondido Creek near Harmony Grove | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1600 | Est 1 | 55 | 9.4 | 88 | 2000 | 7.6 | | | | | 0/0.00 | 224/3.67 | | 304/8.57 | | | 0.34 | | | | 60 | 365 | | -5 | | DWR |
| Feb 6 1510 | Est 1 | 54 | 5.8 | 54 | 2053 | 7.4 | | | | | 0/0.00 | 220/3.61 | | 318/8.97 | | | 0.35 | | | | 57 | 407 | | -5 | | DWR |
| Mar 13 1530 | Est 1 | 59 | 7.6 | 75 | 2049 | 7.4 | | | | | 0/0.00 | 259/4.25 | | 300/8.46 | | | 0.58 | | | | 60 | 395 | | -5 | | DWR |
| Apr 16 1450 | Est 1 | 59 | 4.8 | 47 | 1968 | 7.3 | | | | | 0/0.00 | 261/4.28 | | 300/8.46 | | | 0.62 | | | | 58 | 389 | | -5 | | DWR |
| May 7 1335 | Est 0.5 | 70 | 10.4 | 116 | 2169 | 7.8 | 89/4.44 | 44/3.62 | 300/13.05 | 15.2/0.389 | 0/0.00 | 298/4.88 | 332/6.91 | 353/9.95 | 8.3/0.134 | 1.0/0.053 | 1.02 | 20 | $PO_4$ 21.2; (a) Sn 0.0 | 1333[b] | 61 | 403 | 159 | -5 | | DWR |
| June 18 1405 | Est .25 | 66 | 4.6 | 49 | 2232 | 7.4 | | | | | 0/0.00 | 307/5.03 | | 368/10.38 | | | 0.76 | | | | 63 | 412 | | -5 | | DWR |
| July 16 1420 | Ponded | 79 | 5.6 | 68 | 2342 | 8.5 | | | | | 0/0.00 | 115/1.88 | | 395/11.14 | | | 0.72 | | | | 62 | 436 | | 20 | | DWR |
| Aug 13 1450 | " | 77 | 1.0 | 11.9 | 3012 | 8.5 | | | | | 0/0.00 | 102/1.67 | | 450/12.69 | | | 0.26 | | | | 44 | 881 | | 3500 | | DWR |
| Sept 17 1400 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Oct 8 1445 | Ponded | 68 | 7.5 | 82 | 2331 | 7.3 | | | | | 0/0.00 | 312/5.11 | | 193/5.44 | | | 0.84 | | | | 60 | 436 | | -5 | | DWR |
| Nov 7 1540 | Est 0.25 | 57 | 8.8 | 85 | 2257 | 7.6 | | | | | 0/0.00 | 268/4.39 | | 350/9.87 | | | 0.82 | | | | 59 | 452 | | -5 | | DWR |
| Dec 10 1200 | Ponded | 56 | 6.0 | 57 | 2298 | 8.0 | | | | | 0/0.00 | 276/4.52 | | 356/10.04 | | | 0.44 | | | | 61 | 442 | | 15 | median 23 minimum .45 – maximum 700 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Diego River at Old Mission Dam | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible] 17 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1,527 | 8.0 | | | | | 0 / 0.00 | 195 / [illegible] | | [illegible] / [illegible] | | | [illegible] | | | | 49 | 40[illegible] | | 110 | | [illegible] |
| [illegible] 24 17[illegible] | Ponded | 57 | 15.0 | [illegible] | [illegible] | 8.0 | | | | | 0 / 0.00 | [illegible] / [illegible] | | 5[illegible] / 14.20 | | | 0.42 | | | | 51 | [illegible] | | [illegible] | | [illegible] |
| [illegible] 24 1715 | Ponded | [illegible] | [illegible] | [illegible] | [illegible] | 8.4 | | | | | 17 / 0.561 | [illegible] / [illegible] | | [illegible] / [illegible] | | | 0.34 | | | | 5[illegible] | [illegible] | | [illegible] | | [illegible] |
| [illegible] 2[illegible] [illegible] | Ponded | [illegible] | 16.4 | [illegible] | [illegible] | [illegible] | | | | | 0 / 0.00 | [illegible] / [illegible] | | [illegible] / [illegible] | | | 0.30 | | | | 50 | [illegible] | | [illegible] | | [illegible] |
| [illegible] 16 1959 | Ponded | [illegible] | [illegible] | [illegible] | [illegible] | 7.[illegible] | 1[illegible] / 0.59 | [illegible] / 0.26 | [illegible] / 1.[illegible] | [illegible] / 0.07 | [illegible] / 0.00 | [illegible] / [illegible] | [illegible] / 3.71 | [illegible] / [illegible] | 1.[illegible] / 0.02 | [illegible] / 0.04 | [illegible] | [illegible] | (a) [illegible] | 1,[illegible]34 | [illegible] | [illegible] | [illegible] | 5– | | [illegible] |
| [illegible] 1[illegible] 17[illegible] | Ponded | [illegible] | [illegible] | [illegible] | [illegible] | 7.4 | | | | | [illegible] / [illegible] | [illegible] / [illegible] | | [illegible] / [illegible] | | | [illegible] | | | | 61 | [illegible] | | 5– | | [illegible] |
| [illegible] 1[illegible] [illegible] | Ponded | [illegible] | [illegible].6 | [illegible] | [illegible] | 8.0 | | | | | 0 / 0.00 | [illegible] / [illegible] | | [illegible] / [illegible].12 | | | 0.30 | | | | 53 | 578 | | 5– | | [illegible] |
| [illegible] 1[illegible] 1[illegible] | Ponded | [illegible] | 14.[illegible] | [illegible] | [illegible] | 8.1 | | | | | | [illegible] / 4.08 | | [illegible] / [illegible].50 | | | [illegible] | | | | 50 | 631 | | 5– | | [illegible] |
| [illegible] 19 1715 | Ponded | 75 | 13.[illegible] | 147 | [illegible] | 7.[illegible] | 1[illegible] / 7.98 | [illegible] / 7.5[illegible] | 25.[illegible] / 15.31 | 5.2 / 0.13 | 0.0 / 0.0 | [illegible] / 5.[illegible] | 1[illegible] / [illegible] | [illegible] / [illegible].[illegible] | [illegible] / 0.0 | 0.4 / 0.021 | [illegible].26 | 35 | (a) $PO_4$ 0.0 | 1,014[c] | 5[illegible] | 7[illegible] | 444 | 5– | | [illegible] |
| [illegible] 17 19[illegible] | Ponded | [illegible] | 11.6 | 1.4 | [illegible] | 7.3 | | | | | | 510 / [illegible].34 | | 75 / 1.[illegible] | | | 0.2[illegible] | | | | 52 | 737 | | 5– | | [illegible] |
| [illegible] 14 19[illegible] | Ponded | 57 | 7.[illegible] | 6[illegible] | [illegible] | 7.7 | | | | | 0 / 0.00 | [illegible] / 5.7[illegible] | | [illegible] / [illegible].[illegible] | | | 0.40 | | | | 50 | 730 | | 5– | | [illegible] |
| [illegible] 19 1[illegible] | Ponded | 54 | 11.6 | 1[illegible] | [illegible] | 7.4 | | | | | 0 / 0.[illegible] | [illegible] / 11.[illegible] | | [illegible] / 1[illegible].15 | | | 0.26 | | | | 52 | 692 | | 5– | | [illegible] |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 0.2 minimum .45– maximum 240 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Diego River at Old Mission Dam | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1830 | ponded | 54 | 8.8 | 91 | 2941 | 7.3 | | | | | 0 / 0.00 | 403 / 6.61 | | 712 / 20.08 | | | 0.27 | | | | 51 | 676 | | -5 | | DWR |
| Feb 6 1745 | ponded | 54 | 10.2 | 94 | 2427 | 7.2 | | | | | 0 / 0.00 | 239 / 3.92 | | 538 / 15.17 | | | 0.37 | | | | 48 | 573 | | -5 | | DWR |
| Mar 12 1740 | ponded | 59 | 11.4 | 112 | 2874 | 7.8 | | | | | 0 / 0.00 | 271 / 4.44 | | 650 / 18.32 | | | 0.38 | | | | 50 | 689 | | -5 | | DWR |
| Apr 16 1730 | ponded | 61 | 8.4 | 84 | 1941 | 7.6 | | | | | 0 / 0.00 | 217 / 3.56 | | 396 / 11.17 | | | 0.27 | | | | 50 | 439 | | 14 | | DWR |
| May 7 1616 | ponded | 72 | 10.4 | 118 | 2950 | 8.0 | 156 / 7.78 | 93 / 7.64 | 320 / 13.92 | 5.5 / 0.141 | 0 / 0.00 | 310 / 5.08 | 249 / 5.19 | 705 / 19.88 | 0.8 / 0.013 | 0.8 / 0.042 | 0.40 | 15 | $PO_4$ 0.2 ; (a) $Sn^4$ 0.0 | 1700[b] | 47 | 771 | 517 | -5 | | DWR |
| June 18 1725 | ponded | 75 | 9.4 | 110 | 3185 | 7.6 | | | | | 0 / 0.00 | 405 / 6.64 | | 775 / 21.86 | | | 0.48 | | | | 52 | 780 | | -5 | | DWR |
| July 16 1740 | ponded | 82 | 13.2 | 167 | 3448 | 8.0 | | | | | 0 / 0.00 | 436 / 7.15 | | 828 / 23.35 | | | 0.47 | | | | 51 | 804 | | -5 | | DWR |
| Aug 13 1730 | ponded | 81 | 16.2 | 201 | 3401 | 8.0 | | | | | 0 / 0.00 | 405 / 6.64 | | 890 / 25.10 | | | 0.36 | | | | 52 | 798 | | -5 | | DWR |
| Sept 17 1630 | ponded | 77 | 15.6 | 185 | 3650 | 8.0 | 150 / 7.49 | 105 / 8.63 | 450 / 19.58 | 5.7 / 0.146 | 0 / 0.00 | 398 / 6.52 | 129 / 2.68 | 960 / 27.07 | 2.4 / 0.040 | 0.8 / 0.042 | 0.48 | 30 | $PO_4$ 0.08; (a) | 2689[c] | 55 | 806 | 480 | -5 | | DWR |
| Oct 9 | Not Sampled | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 7 1840 | ponded | 59 | 9.0 | 89 | 3816 | 7.6 | | | | | 0 / 0.00 | 405 / 6.64 | | 990 / 27.92 | | | 0.49 | | | | 53 | 865 | | -5 | | DWR |
| Dec 10 1400 | ponded | 50 | 6.5 | 57 | 3443 | 7.8 | | | | | 12 / 0.40 | 327 / 5.36 | | 975 / 27.50 | | | 0.22 | | | | 53 | 852 | | 10 | median 6.2 minimum 0.6 maximum 62 | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 0.00/0.00 except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub. Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

TABLE 20
ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Mineral constituents in parts per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | equivalents per million | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | San Dieguito River Below San Pasqual Valley | | | | | | | | | | | | | | | | |
| Jan 17 1540 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb 14 1530 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar 14 1515 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr 11 1600 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 16 1650 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| June 13 1535 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| July 18 1530 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 1600 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sept 19 1505 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 17 1630 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 14 1510 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 19 1505 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen % Sat | Specific conductance (micromhos at 25° C) | pH | Mineral constituents in parts per million / equivalents per million: Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | San Dieguito River Below San Pasqual Valley | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1630 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Feb 6 1745 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Mar 12 1600 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Apr 16 1535 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| May 7 1400 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| June 18 1430 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| July 16 1455 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Aug 13 1525 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Sept 17 1415 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Oct 8 1530 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Nov 7 1630 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Dec | No report | | | | | | | | | | | | | | | | | | | | | | | | | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{0.0}{0.00}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25° C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Luis Rey River near Pala | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1400 | Est 3.2 | 55 | 9.4 | 88 | 606 | 7.6 | | | | | 0/0.00 | 183/3.00 | | 39/1.10 | | | 0.0 | | | | 30 | 219 | | 5- | | DWR |
| Feb 14 1430 | Est 2 | 61 | 10.4 | 105 | 592 | 7.8 | | | | | 0/0.00 | 163/2.67 | | 37/1.04 | | | 0.10 | | | | 29 | 221 | | 5- | | DWR |
| Mar 14 1400 | Est 3 | 63 | 9.8 | 101 | 678 | 8.1 | | | | | 0/0.00 | 163/2.67 | | 42/1.18 | | | 0.02 | | | | 12 | 242 | | 5- | | DWR |
| Apr 11 1430 | Est 2 | 64 | 8.4 | 88 | 666 | 8.1 | | | | | 0/0.00 | 173/2.84 | | 43/1.21 | | | 0.06 | | | | 29 | 234 | | 5- | | DWR |
| May 16 1410 | Est 2.5 | 62 | 10.4 | 106 | 633 | 7.5 | 66/3.29 | 20/1.64 | 43/1.87 | 4.8/0.12 | 0/0.00 | 176/2.88 | 128/2.66 | 42/1.18 | 2.0/0.03 | 0.4/0.02 | 0.04 | 35 | (a) | 432[c] | 27 | 246 | 102 | 5- | | DWR |
| Jun 13 1340 | Est 1 | 59 | 8.0 | 79 | 680 | 7.6 | | | | | 0/0.00 | 176/2.88 | | 43/1.21 | | | 0.02 | | | | 28 | 240 | | 5- | | DWR |
| Jul 18 1400 | 0.1 | 63 | 7.4 | 76 | 651 | 7.8 | | | | | 14/0.47 | 139/2.28 | | 49/1.38 | | | 0.03 | | | | 28 | 222 | | 5- | | DWR |
| Aug 15 1450 | 0.1 | 68 | 7.6 | 83 | 661 | 8.0 | | | | | | 161/2.64 | | 56/1.58 | | | 0.0 | | | | 24 | 224 | | 5- | | DWR |
| Sep 19 1330 | Est 0.3 | 64 | 8.0 | 84 | 576 | 7.7 | 59/2.94 | 19/1.56 | 41/1.78 | 4.8/0.123 | 0.0/0.0 | 163/2.68 | 116/2.42 | 42/1.19 | 0.0/0.0 | 0.3/0.016 | 0.06 | 35 | $PO_4$ 0.14; (a) | 409[c] | 28 | 225 | 91 | 5- | | DWR |
| Oct 17 1500 | Est 0.3 | 61 | 7.8 | 78 | 649 | 7.8 | | | | | | 163/2.67 | | 43/1.21 | | | 0.12 | | | | 32 | 222 | | 5- | | DWR |
| Nov 14 1400 | Est 0.03 | 57 | 7.0 | 68 | 672 | 7.4 | | | | | 0/0.00 | 176/2.88 | | 45/1.27 | | | 0.06 | | | | 29 | 229 | | 5- | | DWR |
| Dec 19 1400 | Est 0.05 | 57 | 7.2 | 69 | 645 | 7.4 | | | | | 0/0.00 | 163/2.67 | | 85/2.40 | | | 0 | | | | 28 | 233 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 6.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum .45- | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 700+ | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as 00/000 except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | San Luis Rey River near Fala | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1505 | Est 0.04 | 57 | 7.0 | 68 | 657 | 7.5 | | | | | 0 / 0.00 | 168 / 2.75 | | 45 / 1.27 | | | 0.02 | | | | 28 | 223 | | -5 | | DWR |
| Feb 6 1430 | Est 2 | 59 | 8.4 | 83 | 693 | 7.6 | | | | | 0 / 0.00 | 160 / 2.62 | | 45 / 1.27 | | | 0.12 | | | | 27 | 237 | | -5 | | DWR |
| Mar 12 1445 | Est 1 | 61 | 10.2 | 103 | 689 | 8.2 | | | | | 0 / 0.00 | 161 / 2.64 | | 46 / 1.30 | | | 0.02 | | | | 28 | 237 | | -5 | | DWR |
| Apr 16 1400 | 0.04 | 61 | 9.8 | 98 | 697 | 7.7 | | | | | 0 / 0.00 | 163 / 2.67 | | 47 / 1.33 | | | 0.0 | | | | 27 | 242 | | -5 | | DWR |
| May 7 1245 | Est 1.0 | 63 | 9.0 | 93 | 671 | 8.0 | 60 / 2.99 | 26 / 2.13 | 40 / 1.74 | 4.2 / 0.108 | 0 / 0.00 | 163 / 2.68 | 143 / 2.97 | 44 / 1.24 | 0.85 / 0.014 | 0.3 / 0.016 | 0.01 | 30 | $PO_4$ 0.0; (a) Sn 0.0 | 430[b] | 25 | 256 | 122 | -5 | | DWR |
| June 18 1330 | No Flow | 63 | 7.6 | 78.5 | 681 | 7.4 | | | | | 0 / 0.00 | 173 / 2.84 | | 45 / 1.27 | | | 0.13 | | | | 27 | 244 | | -5 | | DWR |
| July 16 1350 | " | 68 | 8.4 | 91.5 | 687 | 7.6 | | | | | 0 / 0.00 | 171 / 2.80 | | 45 / 1.27 | | | 0.02 | | | | 27 | 246 | | -5 | | DWR |
| Aug 13 1345 | " | 68 | 9.0 | 98 | 679 | 8.0 | | | | | 0 / 0.00 | 176 / 2.88 | | 44 / 1.24 | | | 0.00 | | | | 26 | 244 | | -5 | | DWR |
| Sept 17 1315 | " | 68 | 7.6 | 83 | 664 | 7.6 | 63 / 3.14 | 21 / 1.73 | 41 / 1.78 | 4.4 / 0.113 | 0 / 0.00 | 176 / 2.88 | 135 / 2.82 | 44 / 1.24 | 0.25 / 0.004 | 0.6 / 0.032 | 0.00 | 20 | $PO_4$ 0.08; (a) | 444[c] | 26 | 244 | 100 | -5 | | DWR |
| Oct 8 1245 | " | 66 | 8.0 | 86 | 655 | 7.4 | | | | | 0 / 0.00 | 173 / 2.84 | | 43 / 1.21 | | | 0.05 | | | | 27 | 246 | | -5 | | DWR |
| Nov 7 1500 | " | 63 | 7.0 | 72 | 685 | 7.4 | | | | | 0 / 0.00 | 173 / 2.84 | | 43 / 1.21 | | | 0.14 | | | | 28 | 244 | | -5 | | DWR |
| Dec 10 1110 | " | 55 | 6.5 | 61 | 671 | 8.5 | | | | | 0 / 0.00 | 183 / 3.00 | | 43 / 1.21 | | | 0.04 | | | | 26 | 246 | | -5 | median 6.2 minimum .46 maximum 700+ | DWR |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in ppm / equivalents per million | | | | | | | | | | | | | | | | | | | |
| Santa Margarita River near Fallbrook | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1300 | 14 | 46 | 14.0 | 122 | 1,183 | 8.2 | | | | | 14 / 0.47 | 284 / 4.66 | | 146 / 4.12 | | | 0.16 | | | | 50 | 293 | | 5- | | DWR |
| Feb 14 1110 | Est 25 | 54 | 12.9 | 11[illegible] | 1,163 | 8.3 | | | | | 12 / 0.40 | 276 / 4.52 | | 142 / 4.00 | | | 0.16 | | | | 48 | 306 | | 5- | | DWR |
| Mar 14 1445 | Est 10 | 61 | 11.4 | 115 | 1,195 | 8.4 | | | | | 19 / 0.63 | 266 / 4.36 | | 150 / 4.23 | | | 0.22 | | | | 49 | 294 | | 5- | | DWR |
| Apr 11 1300 | 0.4 | 66 | 9.6 | 103 | 1,170 | 8.4 | | | | | 19 / 0.63 | 281 / 4.61 | | 147 / 4.15 | | | 0.24 | | | | 49 | 290 | | 5- | | DWR |
| May 16 1300 | 1.5 | 64 | 11.[illegible] | 115 | 1,182 | 8.0 | 87 / 4.34 | 21 / 1.73 | 138 / 6.00 | 2.6 / 0.07 | 10 / 0.32 | 325 / 5.32 | 113 / 2.35 | 155 / 4.37 | 1.0 / 0.02 | 0.5 / 0.03 | 0.12 | 30 | (a) | 720[c] | 49 | 304 | 22 | 5- | | DWR |
| Jun 13 1400 | 0.4 | 66 | [illegible] | 75 | 1,220 | 7.9 | | | | | 0 / 0.00 | 383 / 6.28 | | 158 / 4.46 | | | 0.24 | | | | 49 | 321 | | 5- | | DWR |
| Jul 18 1300 | 0.3 | 73 | 7.6 | 88 | 1,155 | 7.8 | | | | | 0 / 0.00 | 390 / 6.39 | | 172 / 4.85 | | | 0.29 | | | | 54 | 283 | | 5- | | DWR |
| Aug 15 1345 | 0.6 | 75 | 8.0 | 93 | 1,067 | 8.2 | | | | | 17 / 0.57 | 305 / 5.00 | | 161 / 4.54 | | | 0.26 | | | | 46 | 282 | | 6 | | DWR |
| Sep 19 1215 | 0.2 | 72 | 10.4 | 118 | 1,264 | 8.1 | 86 / 4.29 | 29 / 2.38 | 176 / 7.66 | 4.1 / 0.105 | 0.0 / 0.0 | 403 / 6.60 | 92 / 1.91 | 193 / 5.44 | 3.0 / 0.048 | 0.4 / 0.021 | 0.28 | 30 | $PO_4$ 0.05; (a) | 813[c] | 53 | 334 | 4 | 5- | | DWR |
| Oct 17 1350 | Est 0.5 | 61 | 8.6 | 96 | 925 | 8.0 | | | | | | 381 / 6.23 | | 158 / 4.46 | | | 0.22 | | | | 49 | 310 | | 5- | | DWR |
| Nov 14 1300 | 4.0 | 55 | 8.2 | 77 | 1,300 | 8.0 | | | | | 0 / 0.00 | 364 / 5.97 | | 174 / 4.90 | | | 0.32 | | | | 51 | 297 | | 5- | | DWR |
| Dec 19 1300 | Est 5.0 | 50 | 10.6 | 93 | 1,212 | 8.3 | | | | | 0 / 0.00 | 307 / 5.03 | | 156 / 4.40 | | | 0.12 | | | | 46 | 326 | | 5- | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 23 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2.3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 240 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Santa Margarita River near Fallbrook | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1400 | 0.9 | 54 | 9.4 | 87 | 1205 | 8.2 | | | | | 0/0.00 | 315/5.16 | | 154/4.34 | | | 0.12 | | | | 48 | 307 | | -5 | | DWR |
| Feb 6 1340 | Est 10 | 50 | 10.4 | 92 | 1267 | 8.0 | | | | | 0/0.00 | 305/5.00 | | 165/4.65 | | | 0.30 | | | | 48 | 317 | | -5 | | DWR |
| Mar 12 1330 | Est 2 | 55 | 9.6 | 90 | 1171 | 8.2 | | | | | 10/0.33 | 285/4.67 | | 106/2.99 | | | 0.22 | | | | 47 | 300 | | -5 | | DWR |
| Apr 16 1315 | 11 | 55 | 9.8 | 92 | 1449 | 8.2 | | | | | 0/0.00 | 295/4.84 | | 220/6.20 | | | 0.32 | | | | 58 | 281 | | -5 | | DWR |
| May 7 1200 | 0.5 | 63 | 9.2 | 95 | 1172 | 8.2 | 69/3.44 | 36/2.96 | 123/5.35 | 3.4/0.087 | 0/0.00 | 337/5.52 | 109/2.28 | 151/4.26 | 1.50/0.024 | 0.5/0.026 | 0.24 | 30 | $PO_4$ 0.2; (a) | 692[b] | 45 | 320 | 44 | -5 | | DWR |
| June 18 1240 | No Flow | 70 | 8.2 | 91 | 1318 | | | | | | 0/0.00 | 390/6.39 | | 174/4.91 | | | 0.38 | | | | 50 | 335 | | -5 | | DWR |
| July 16 1250 | " | 77 | 9.2 | 110 | 1379 | | | | | | 0/0.00 | 405/6.64 | | 179/5.05 | | | 0.30 | | | | 50 | 347 | | -5 | | DWR |
| Aug 13 1245 | " | 79 | 19.0 | 231 | 1326 | 7.9 | | | | | 0/0.00 | 371/6.03 | | 183/5.16 | | | 0.18 | | | | 51 | 313 | | -5 | | DWR |
| Sept 17 1205 | " | 64 | 7.6 | 80 | 1577 | 7.4 | 113/5.64 | 35/2.88 | 178/7.74 | 4.5/0.115 | 0/0.00 | 442/7.24 | 171/3.57 | 207/5.84 | 0.30/0.005 | 0.6/0.032 | 0.29 | 30 | $PO_4$ 0.24; (a) | 977[c] | 47 | 426 | 64 | -5 | | DWR |
| Oct 8 1115 | " | 68 | 6.5 | 71 | 1400 | 7.4 | | | | | 0/0.00 | 393/6.44 | | 189/5.33 | | | 0.29 | | | | 51 | 331 | | -5 | | DWR |
| Nov 7 1330 | " | 57 | 8.4 | 81 | 1328 | 7.7 | | | | | 0/0.00 | 422/6.92 | | 170/4.79 | | | 0.18 | | | | 50 | 347 | | -5 | | DWR |
| Dec 10 1000 | Est 30 cfs | 47 | 9.0 | 76 | 1342 | 9.4 | | | | | 0/0.00 | 400/6.56 | | 175/4.94 | | | 0.24 | | | | 48 | 341 | | -5 | median 2.3 | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 0.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 62 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents.

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept of Pub Health (LADPH), Long Beach Dept. of Pub. Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N C ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| **Tia Juana River at International Boundary** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1955 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 17 1000 | Est 2 | 57 | 11.2 | 1[illegible] | 1,410 | 8.4 | | | | | 0 / 0.00 | 3.6 / 5.34 | | 568 / 14.89 | | | 0.28 | | | | 55 | 514 | | 100 | | [illegible] |
| Feb 1[illegible] 14[illegible] | Est 1.5 | [illegible] | 16.0 | 1[illegible]3 | 1,[illegible]17 | 8.4 | | | | | 0 / 0.00 | 2[illegible] / [illegible] | | 475 / 13.03 | | | 0.18 | | | | 62 | 534 | | [illegible] | | [illegible] |
| Mar 14 1415 | Est 1 | 73 | 11.0 | 144 | 1,[illegible]1 | 8.4 | | | | | 0 / 0.00 | 1[illegible] / [illegible] | | 700 / 19.74 | | | 0.36 | | | | 63 | 478 | | 45 | | [illegible] |
| Apr 11 1710 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| May 16 1[illegible]5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun 13 1[illegible]5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 1[illegible] 1[illegible] | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 1705 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 19 1[illegible]5 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 17 1720 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov 14 1[illegible]0 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec 19 1600 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 425 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 45 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 7000 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{0.00}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination

d Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Calif. Dept of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

# TABLE 18
## ANALYSES OF SURFACE WATER

REGION 9

| Date and time sampled | Discharge in cfs | Temp in °F | Dissolved oxygen ppm | Dissolved oxygen %Sat | Specific conductance (micromhos at 25°C) | pH | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Carbonate ($CO_3$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Fluoride (F) | Boron (B) | Silica ($SiO_2$) | Other constituents | Total Dissolved solids in ppm | Percent sodium | Hardness as $CaCO_3$ Total ppm | Hardness as $CaCO_3$ N.C. ppm | Turbidity in ppm | Coliform[d] MPN/ml | Analyzed by[e] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mineral constituents in parts per million / equivalents per million | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Tia Juana River at International Boundary | | | | | | | | | | | | | | | | | | | |
| 1956 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan 16 1745 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Feb 6 1650 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Mar 12 1700 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Apr 16 1615 | ponded | 61 | 3.8 | 38 | | 7.3 | SAMPLE BROKEN | | | | | | | | | | | | | | | | | | | DWR |
| May 7 1510 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| June 18 1605 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| July 16 1625 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Aug 13 1630 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Sept 17 1330 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Oct 9 0900 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Nov 7 1735 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| Dec 10 1500 | Dry | | | | | | | | | | | | | | | | | | | | | | | | | DWR |
| | | | | | | | | | | | | | | | | | | | | | | | | | median 2300 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | minimum 2300 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | maximum 2300 | |

a Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and chromium (Cr), reported here as $\frac{00}{000}$ except as shown.

b Determined by addition of analysed constituents

c Gravimetric determination.

d Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Calif. Dept. of Public Health, Division of Laboratories.

e Mineral analyses made by USGS, Quality of Water Branch (USGS), Pacific Chemical Consultant (PCC), Metropolitan Water District (MWD), Los Angeles Dept. of Water & Power (LADWP), City of Los Angeles Dept. of Pub Health (LADPH), Long Beach Dept. of Pub Health (LBDPH) or State Division of Water Resources (DWR), as indicated

RADIOASSAY OF SURFACE WATERS

NORTH COASTAL REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 1 | Klamath River | Copco | 9-55 | 0 | 5.9 ± 5.4 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 2 | Klamath River | Somesbar | 9-55 | 0 | 8.7 ± 5.1 | 0 | 0 |
| | | | 5-56 | 7.7 ± 6.2 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 22.5 ± 4.6 | 0 | 0 |
| 3 | Klamath River | Klamath | 9-55 | 0 | 6.9 ± 6.4 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 3a | Smith River | Crescent City | 9-55 | 0 | 9.3 ± 5.1 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 4 | Trinity River | Hoopa | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.49 ± 0.39 |
| | | | 9-56 | 7.9 ± 4.7 | 0 | 0 | 0.39 ± 0.33 |
| 4a | Trinity River | Lewiston | 5-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 84.2 ± 7.8 | 0 | 0 | 0 |
| 5 | Eel River | McCann | 9-55 | 7.0 ± 5.4 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.59 ± 0.39 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 6 | Eel River | Scotia | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 6.5 ± 5.2 | 13.74 ± 7.8 | 0 | 0.62 ± 0.48 |
| | | | 9-56 | 8.5 ± 5.0 | 0 | 0 | 0 |
| 7 | South Fork Eel River | Miranda | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 19.5 ± 5.8 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 6.5 ± 6.4 | 0 | 0.79 ± 0.76 |

TABLE 19

## RADIOASSAY OF SURFACE WATERS

NORTH COASTAL REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 8 | East Fork Russian River | Calpella | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 5.9 ± 5.5 | 0 | 0.68 ± 0.53 | 1.86 ± 0.54 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 8a | Russian River | Hopland | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 6.0 ± 5.5 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 7.0 ± 6.2 | 0 | 0.50 ± 0.44 |
| 9 | Russian River | Healdsburg | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 5.6 ± 5.4 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 10 | Russian River | Guerneville | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 6.1 ± 5.0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 1.24 ± 0.59 |
| | | | 9-56 | 7.0 ± 4.8 | 9.4 ± 5.9 | 0.81 ± 0.58 | 0.91 ± 0.60 |
| 10a | East Fork Russian River | Potter Valley Power House | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0.59 ± 0.51 | 0 |
| | | | 9-56 | 0 | 6.6 ± 5.9 | 0 | 0 |
| 10b | Russian River | Ukiah | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 8.1 ± 5.0 | 9.9 ± 5.3 | 0 | 0 |
| | | | 5-56 | 0 | 13.71 ± 7.9 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |

RADIOASSAY OF SURFACE WATERS

SAN FRANCISCO BAY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 72 | Napa River | St. Helena | 5-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 17.4 ± 0.10 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 73 | Alameda Creek | Niles | 5-55 | 6.1 ± 6.0 | 0 | 0 | 0 |
| | | | 5-56 | 6.4 ± 5.1 | 9.98 ± 7.0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 74 | Los Gatos Creek | Los Gatos | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 6.9 ± 5.4 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 82 | Coyote Creek | Madrone | 5-55 | 0 | 6.9 ± 6.2 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 8.49 ± 7.1 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |

CENTRAL COASTAL REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 45a | Salinas River | Paso Robles | 5-56 | 7.9 ± 5.9 | 0 | 0 | 0 |
| 45 | Santa Ynez River | Los Laureles Canyon | 5-56 | 0 | 7.74 ± 7.3 | 0 | 0 |
| 45a | Santa Ynez River | Solvang | 5-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| 75 | San Lorenzo River | Big Trees | 5-55 | 0 | 0 | 0.5 ± 0.5 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0.70 ± 0.61 | 0 |
| 76 | Soquel Creek | Soquel | 5-55 | 6.9 ± 6.3 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 14.1 ± 5.4 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 77 | Pajaro River | Chittenden | 5-55 | 0 | 0 | 0 | 0.4 ± 0.4 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0.86 ± 0.43 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 83 | Carmel River | Carmel | 5-55 | 6.1 ± 6.0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 7.0 ± 4.8 | 0 | 0 | 0 |

TABLE 22

# RADIOASSAY OF SURFACE WATERS

LOS ANGELES REGION

| Sta. No | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 45b | Matilija Creek | Matilija Dam | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 46 | Santa Clara River | Los Angeles Ventura County Line | 5-55 | 6.1 ± 6.0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 6.3 ± 4.8 | 0 | 0 | 0 |
| | | | 9-56 | 5.0 ± 4.7 | 6.2 ± 5.5 | 0 | 0.40 ± 0.28 |
| 46a | Santa Clara River | Santa Paula | 5-55 | 0 | 0 | 18.4 ± 6.4 | 1.9 ± 0.6 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0.60 ± 0.52 |
| 46b | Santa Clara River | Blue Cut | 5-55 | 8.7 ± 6.0 | 17.7 ± 6.4 | 0.5 ± 0.4 | 0.7 ± 0.5 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 6.6 ± 5.0 | 0 | 0 | 0.97 ± 0.69 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 47 | Los Angeles River | Los Angeles | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 20.4 ± 6.0 | 0 | 0 | 0 |
| 48 | Los Angeles River | Long Beach | 5-55 | 9.7 ± 6.0 | 8.4 ± 6.3 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 3.47 ± 0.93 |
| | | | 5-56 | 11.7 ± 5.7 | 0 | 0 | 0 |
| | | | 9-56 | 10.7 ± 6.0 | 0 | 0 | 0 |
| 49 | Rio Hondo | Whittier Narrows | 5-55 | 10.1 ± 6.0 | 9.0 ± 6.4 | 0.4 ± 0.4 | 0 |
| | | | 9-55 | 8.3 ± 5.5 | 0 | 0.41 ± 0.35 | 0 |
| | | | 5-56 | 6.4 ± 5.7 | 0 | 0 | 0 |
| | | | 9-56 | 10.4 ± 4.9 | 0 | 0.31 ± 0.29 | 1.04 ± 0.55 |

## TABLE 22

## RADIOASSAY OF SURFACE WATERS

LOS ANGELES REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 49a | Mission Creek | Whittier Narrows | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0.41 ± 0.38 | 0.61 ± 0.58 |
| 50 | San Gabriel River | Whittier Narrows | 5-55 | 10.1 ± 6.0 | 0 | 0 | 0 |
| | | | 5-56 | 8.8 ± 5.8 | 0 | 0 | 0.96 ± 0.52 |
| 50a | San Gabriel River | Azusa | 9-55 | 12.5 ± 5.2 | 0 | 0 | 0 |
| 61 | Ventura River | Ventura | 5-55 | 8.7 ± 5.9 | 0 | 0 | 0 |
| | | | 5-56 | 13.0 ± 5.8 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |

## RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 11 | Sacramento River | Delta | 5-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 19.6 ± 5.5 | 5.6 ± 4.5 | 0 | 0 |
| 12 | Sacramento River | Keswick | 5-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 13.8 ± 6.4 | [illegible].9 ± 6.9 | 1.33 ± 0.73 | 0.92 ± 0.78 |
| 12a | Sacramento River | Redding | 5-55 | 0 | 0 | 0.5 ± 0.4 | 1.0 ± 0.6 |
| | | | 5-56 | 0 | 9.68 ± 5.8 | 0 | 0 |
| 12b | Cottonwood Creek | Cottonwood | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0.26 ± 0.16 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 10.7 ± 8.0 | 0 | 0 |
| 13 | Sacramento River | Hamilton City | 5-55 | 0 | 0 | 0 | 0.7 ± 0.4 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 5.3 ± 5.2 | 0 | 0 | 0 |
| 13a | Stony Creek | Hamilton City | 5-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 9.6[illegible] ± 6.3 | 0 | 0 |
| 14 | Sacramento River | Knights Landing | 5-55 | 0 | 0 | 0 | 0.5 ± 0.5 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.67 ± 0.52 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 14a | Sacramento Slough | Knights Landing | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 15 | Sacramento River | Sacramento | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 6.[illegible] ± [illegible] | 0 | 0 | 0 |
| | | | 5-56 | 0 | 7.55 ± 0.55 | 0 | 0 |
| | | | 9-56 | [illegible] | 0 | 0 | 0 |

TABLE 23

## RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 16 | Sacramento River | Rio Vista | 5-55 | 0 | 8.8 ± 7.4 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.66 ± 0.44 |
| | | | 9-56 | 0 | 0 | 0 | 0.79 ± 0.65 |
| 16a | Calaveras River | Jenny Lind | 5-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 6.95 ± 5.7 | 0 | 0 |
| | | | 9-56 | 0 | 11.5 ± 8.1 | 0 | 0.49 ± 0.36 |
| 17 | Pit River | Montgomery Creek | 5-55 | 0 | 0 | 0 | 0.5 ± 0.3 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| 17a | Pit River | Canby | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.97 ± 0.69 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 17c | Burney Creek | Burney | 5-55 | 0 | 0 | 0 | 0.4 ± 0.4 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 17d | Indian Creek | Crescent Mills | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 28.6 ± 6.3 | 0 | 0 |
| | | | 5-56 | 0 | 6.35 ± 5.3 | 0 | 0.53 ± 0.38 |
| | | | 9-56 | 6.2 ± 4.6 | 0 | 0 | 0 |
| 18 | McCloud River | Shasta Lake | 5-55 | 0 | 0 | 0 | 0 |
| 19 | Feather River | Oroville | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 5.7 ± 5.6 | 0 | 0 |
| | | | 5-56 | 0 | 5.67 ± 5.1 | 0 | 0 |
| | | | 9-56 | 5.6 ± 4.6 | 0 | 0.60 ± 0.47 | 0 |

## TABLE 23

## RADIOASSAY OF SURFACE WATERS

### CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 20 | Feather River | Nicolaus | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 9.9 ± 9.6 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 21 | Yuba River | Marysville | 5-55 | 0 | 0 | 0 | |
| | | | 9-55 | 0 | 0 | 0 | |
| | | | 5-56 | 0 | 0 | 0 | 0.71 ± 0.61 |
| | | | 9-56 | 5.2 ± 4.9 | 0 | 0 | 0 |
| 21a | Yuba River | Smartville | 5-55 | 0 | 10.8 ± 7.2 | 0 | 0.8 ± 0.4 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 8.2 ± 7.6 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 22 | American River | Sacramento | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 6.0 ± 5.2 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 7.0 ± 5.0 | 0 | 0 | 0.69 ± 0.48 |
| 23 | Mokelumne River | Woodbridge | 5-55 | 0 | 0 | 0 | 0.7 ± 0.4 |
| | | | 9-55 | 25.5 ± 5.5 | 11.4 ± 4.8 | 0 | 0.23 ± 0.22 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 10.6 ± 7.8 | 0 | 0.69 ± 0.59 |
| 23a | Mokelumne River | Lancha Plana | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 5.4 ± 4.7 | 0 | 0 |
| | | | 5-56 | 8.4 ± 6.7 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 24 | San Joaquin River | Friant | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 6.3 ± 5.7 | 0 | 0 |
| | | | 9-56 | 0 | 7.8 ± 7.2 | 0 | 0 |

## TABLE 23

## RADIOASSAY OF SURFACE WATERS

### CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 25 | San Joaquin River | Mendota | 5-55 | 0 | 14.5 ± 7.6 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0.33 ± 0.32 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0.39 ± 0.32 |
| 26 | San Joaquin River | Grayson | 5-55 | 15.5 ± 6.3 | 20.1 ± 7.6 | 0.5 ± 0.4 | 0.7 ± 0.5 |
| | | | 9-55 | 0 | 7.0 ± 5.4 | 1.12 ± 0.72 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 11.0 ± 4.9 | 13.3 ± 6.7 | 1.55 ± 0.62 | 0 |
| 26a | San Joaquin River | Maze Road Bridge | 5-55 | 12.7 ± 6.0 | 20.6 ± 7.4 | 0 | 1.2 ± 0.5 |
| | | | 9-55 | 0 | 10.7 ± 5.4 | 0 | 0 |
| | | | 5-56 | 8.5 ± 8.1 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 27 | San Joaquin River | Vernalis | 5-55 | 7.4 ± 6.2 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 6.2 ± 5.3 | 0 | 0.45 ± 0.39 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 11.9 ± 7.7 | 0 | 0 |
| 28 | San Joaquin River | Antioch | 5-55 | 17.0 ± 6.3 | 0 | 0 | 0 |
| | | | 9-55 | 8.7 ± 5.4 | 6.3 ± 5.1 | 0 | 0.39 ± 0.38 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 29 | Stanislaus River | Mouth | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 7.7 ± 5.2 | 5.6 ± 5.3 | 0 | 0.62 ± 0.35 |
| | | | 5-56 | 0 | 7.6 + 7.1 | 0 | 0 |
| | | | 9-56 | 6.2 + 4.9 | 0 | 0 | 0 |

# RADIOASSAY OF SURFACE WATERS

## CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 29a | Stanislaus River | Knights Ferry | 9-56 | 0 | 0 | 0 | 0 |
| 30 | Tuolumne River | Hickman-Waterford Bridge | 5-55 | 0 | 0 | 0 | 0.7 ± 0.5 |
| | | | 9-55 | 0 | 0 | 0 | 0.75 ± 0.42 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0.59 ± 0.53 |
| 31 | Tuolumne River | Tuolumne City | 5-55 | 9.8 ± 6.3 | 0 | 0.7 ± 0.4 | 0 |
| | | | 9-55 | 0 | 6.1 ± 5.1 | 0 | 0 |
| | | | 5-56 | 24.3 ± 8.2 | 0 | 0 | 1.10 ± 0.65 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 31b | Tuolumne River | LaGrange | 5-55 | 10.5 ± 6.3 | 0 | 0 | 0.8 ± 0.4 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.95 ± 0.51 |
| | | | 9-56 | 0 | 0 | 0 | 0.96 ± 0.61 |
| 32 | Merced River | Stevinson | 5-55 | 8.5 ± 5.7 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 21.1 ± 8.7 | 0.64 ± 0.59 | 0 |
| 32a | Merced River | Exchequer Dam | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 8.1 ± 5.4 | 0 | 1.61 ± 0.72 |
| | | | 5-56 | 13.3 ± 7.3 | 0 | 0.54 ± 0.48 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 33 | Kings River | Above North Fork | 5-55 | 0 | 0 | 0 | 0 |
| 33a | Kings River | Piedra | 5-55 | 0 | 0 | 0 | 0.5 ± 0.4 |
| 33b | Kings River | Pine Flat Dam | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 33c | Kings River | Below North Fork | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 11.5 ± 7.1 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |

TABLE 23

RADIOASSAY OF SURFACE WATERS
CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 34 | Kings River | Kingsburg | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 18.9 ± 6.7 | 9.9 ± 7.9 | 0 | 0 |
| 35 | Kaweah River | Three Rivers | 5-55 | 0 | 0 | 0 | 1.2 ± 0.5 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 21.7 ± 6.5 | 0 | 0.91 ± 0.59 |
| 36 | Kern River | Bakersfield | 5-55 | 0 | 0 | 0 | 0.7 ± 0.5 |
| | | | 9-55 | 0 | 6.7 ± 5.3 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 36a | Kern River | Isabella Dam | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 12.2 ± 8.3 | 0 | 0 | 0 |
| 36b | Kern River | Kernville | 5-56 | 21.7 ± 8.0 | 9.5 ± 9.3 | 0 | 0.65 ± 0.58 |
| 40 | Clear Lake | Clearlake Oaks | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 6.3 ± 5.3 | 0 | 0 |
| | | | 5-56 | 19.6 ± 7.6 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 41 | Clear Lake | Lakeport | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0.43 ± 0.42 |
| | | | 5-56 | 11.3 ± 7.6 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 42 | Cache Creek | Lower Lake | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 23.8 ± 5.5 | 0 | 0 | 0 |

TABLE 23

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 78 | Bear River | Wheatland | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 8.1 ± 5.4 | 0 | 0.43 ± 0.42 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 79 | North Fork Cache Creek | Lower Lake | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0.73 ± 0.51 |
| | | | 5-56 | 7.4 ± 5.0 | 0 | 0.54 ± 0.40 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 80 | Cache Creek | Capay | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 7.3 ± 5.5 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0.61 ± 0.41 | 0.69 ± 0.55 |
| 81 | Putah Creek | Winters | 5-55 | 0 | 0 | 0 | 0.5 ± 0.4 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 22.0 ± 6.0 | 0 | 0.43 ± 0.35 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 87 | Colusa Trough | Colusa | 5-56 | 0 | 0 | 0.57 ± 0.47 | 0 |
| 92 | Delta-Mendota Canal | Mendota | 5-55 | 10.1 ± 6.2 | 8.1 ± 7.0 | 0 | 0 |
| | | | 9-55 | 6.2 ± 5.2 | 0 | 0.32 ± 0.31 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 93 | Delta-Mendota Canal | Tracy | 9-55 | 0 | 7.7 ± 4.8 | 0 | 0.80 ± 0.28 |
| 97 | Sacramento River | Snodgrass Slough | 9-55 | 0 | 0 | 0 | 0 |
| 98 | Delta-Cross Channel | Walnut Grove | 9-55 | 0 | 7.0 ± 4.8 | 0 | 0.32 ± 0.26 |

TABLE 23

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 99 | Little Potato Slough | Terminous | 9-55 | 0 | 0 | 0 | 0 |
| 100 | Stockton Ship Channel | Rindge Island | 9-55 | 0 | 6.2 ± 5.3 | 0 | 0 |
| 101 | San Joaquin River | Garwood Bridge | 9-55 | 0 | 0 | 0 | 0 |
| 102 | San Joaquin River | Mossdale Bridge | 9-55 | 0 | 0 | 0 | 0 |
| 103 | Old River | Tracy | 9-55 | 6.9 ± 4.8 | 7.7 ± 4.8 | 1.84 ± 0.70 | 0 |
| 104 | Old River | Clifton Court Ferry | 5-55<br>9-55 | 0<br>0 | 0<br>0 | 0<br>0 | 0<br>0 |
| 106 | Italian Slough | Mouth | 9-55 | 4.7 ± 4.6 | 0 | 0 | 0 |
| 107 | Indian Slough | Brentwood | 9-55 | 6.0 ± 5.3 | 0 | 0 | 0 |
| 108 | Old River | Orwood Bridge | 9-55 | 0 | 5.5 ± 4.8 | 0 | 0 |
| 109 | Rock Slough | Knightsen | 9-55 | 0 | 0 | 0 | 0 |
| 110 | Lindsey Slough | Rio Vista | 9-55 | 0 | 0 | 0 | 0 |
| 111 | Bear Creek | Stevinson | 9-55 | 0 | 16.1 ± 5.6 | 0.74 ± 0.40 | 0 |
| 112 | Old River | Mandeville Island | 9-55 | 0 | 0 | 0 | 0 |

## TABLE 24

## RADIOASSAY OF SURFACE WATERS

LAHONTAN REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 17b | Susan River | Susanville | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 13.7 ± 10.0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 25.5 ± 9.0 | 0 | 0 |
| 37 | Lake Tahoe | Tahoe Vista | 5-55 | 25.7 ± 6.3 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 13.0 ± 5.1 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.90 ± 0.58 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 38 | Lake Tahoe | Tahoe City | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 6.5 ± 5.1 | 0 | 0 |
| | | | 5-56 | 14.4 ± 10.0 | 0 | 0 | 0.67 ± 0.50 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 39 | Lake Tahoe | Bijou | 5-55 | 10.2 ± 5.8 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 7.9 ± 7.6 | 0 | 0 | 0 |
| 52 | Truckee River | Truckee | 5-55 | 0 | 0 | 0 | 0.7 ± 0.5 |
| | | | 9-55 | 0 | 8.0 ± 5.1 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.40 ± 0.35 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 53 | Truckee River | Farad | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 5.9 ± 5.5 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0.63 ± 0.41 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 67 | Mojave River | Victorville | 5-55 | 0 | 6.5 ± 6.0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 16.3 ± 5.3 | 0 | 0 |

TABLE 25

RADIOASSAY OF SURFACE WATERS

COLORADO RIVER BASIN REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 54 | Colorado River | Topock, Arizona | 5-55 | 7.6 ± 6.1 | 0 | 0.5 ± 0.5 | 0.5 ± 0.4 |
| | | | 9-55 | 6.8 ± 5.3 | 8.0 ± 5.3 | 0 | 0 |
| | | | 5-56 | 9.0 ± 6.1 | 0 | 0 | 0 |
| | | | 9-56 | 13.1 ± 4.8 | 0 | 0 | 0 |
| 55 | Colorado River | Parker Dam | 5-55 | 9.7 ± 6.1 | 0 | 0.5 ± 0.4 | 0 |
| | | | 9-55 | 9.2 ± 5.5 | 0 | 1.29 ± 0.57 | 0.82 ± 0.57 |
| | | | 5-56 | 0 | 8.6 ± 7.8 | 0 | 0 |
| | | | 9-56 | 6.0 ± 4.7 | 0 | 0 | 0 |
| 56 | Colorado River | Yuma, Arizona | 5-55 | 10.5 ± 6.1 | 0 | 0.5 ± 0.4 | 0 |
| | | | 9-55 | 9.3 ± 5.5 | 13.1 ± 5.3 | 0 | 0 |
| | | | 5-56 | 6.1 ± 5.4 | 0 | 0 | 0 |
| | | | 9-56 | 7.0 ± 4.7 | 12.6 ± 7.8 | 0 | 0 |
| 56a | All American Canal | Pilot Knob | 5-55 | 0 | 0 | 0.5 ± 0.4 | 0 |
| | | | 9-55 | 5.7 ± 5.5 | 7.0 ± 5.3 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 7.1 ± 5.3 | 0 | 0.51 ± 0.44 | 0.50 ± 0.44 |
| 56b | Colorado River | Morales Dam | 5-55 | 15.5 ± 5.9 | 0 | 0.9 ± 0.5 | 0 |
| | | | 9-55 | 11.0 ± 5.5 | 12.4 ± 5.4 | 0 | 0.57 ± 0.51 |
| | | | 5-56 | 15.5 ± 5.1 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 17.3 ± 6.2 | 0 | 0 |
| 56c | Colorado River | Blythe | 5-55 | 11.9 ± 6.0 | 6.5 ± 6.3 | 0 | 0 |
| | | | 9-55 | 8.8 ± 5.5 | 6.7 ± 5.4 | 0 | 0 |
| | | | 5-56 | 6.9 ± 5.0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 57 | New River | Calexico (International Boundary) | 5-55 | 0 | 0 | 0 | 0.4 ± 0.4 |
| | | | 9-55 | 8.7 ± 5.4 | 0 | 0.24 ± 0.22 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |

## TABLE 25

## RADIOASSAY OF SURFACE WATERS

COLORADO RIVER BASIN REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 58 | New River | Westmorland | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 30.3 ± 5.8 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 7.2 ± 4.5 | 0 | 0 | 1.40 ± 0.78 |
| 59 | Alamo River | Calexico (International Boundary) | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 5.5 ± 5.2 | 0 | 0 |
| | | | 5-56 | 10.9 ± 4.9 | 8.5 ± 6.7 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 60 | Alamo River | Calipatria | 5-55 | 15.9 ± 6.0 | 0 | 0 | 0 |
| | | | 9-55 | 8.7 ± 5.2 | 13.7 ± 5.5 | 0 | 0.74 ± 0.59 |
| | | | 5-56 | 9.4 ± 5.2 | 13.21 ± 5.5 | 0 | 0 |
| | | | 9-56 | 9.2 ± 5.7 | 0 | 0 | 0 |
| 68 | Whitewater River | Whitewater | 5-55 | 15.9 ± 6.0 | 0 | 0.6 ± 0.5 | 0 |
| | | | 9-55 | 10.7 ± 5.8 | 0 | 1.08 ± 0.59 | 0 |
| | | | 5-56 | 17.2 ± 5.5 | 0 | 0.78 ± 0.69 | 0 |
| | | | 9-56 | 13.2 ± 4.1 | 0 | 1.87 ± 0.71 | 0 |

TABLE 26

## RADIOASSAY OF SURFACE WATERS

SANTA ANA REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 50b | Warm Creek | Colton | 5-55 | 13.4 ± 6.0 | 0 | 0 | 0.7 ± 0.5 |
| | | | 5-56 | 9.4 ± 5.0 | 9.1 ± 5.9 | 0 | 1.74 ± 0.73 |
| 50c | Warm Creek | San Bernardino | 5-55 | 0 | 9.0 ± 6.0 | 0 | 0 |
| | | | 5-56 | 12.3 ± 5.0 | 0 | 0 | 2.46 ± 1.06 |
| 51 | Santa Ana River | Arlington (Pedley Bridge) | 5-55 | 12.3 ± 5.9 | 0 | 0.6 ± 0.4 | 0 |
| 51a | Santa Ana River | Prado | 5-55 | 11.5 ± 5.9 | 7.2 ± 6.3 | 0 | 0.5 ± 0.4 |
| | | | 9-55 | 9.8 ± 5.2 | 7.7 ± 5.1 | 0.64 ± 0.45 | 0 |
| | | | 5-56 | 10.5 ± 4.9 | 9.9 ± 6.1 | 0 | 0 |
| | | | 9-56 | 7.7 ± 5.3 | 12.3 ± 7.6 | 0 | 0 |
| 51b | Santa Ana River | Mentone | 5-55 | 10.5 ± 6.0 | 0 | 1.2 ± 0.6 | 0.8 ± 0.6 |
| | | | 9-55 | 10.4 ± 5.4 | 0 | 0 | 0 |
| | | | 5-56 | 3.8 ± 2.6 | 26.82 ± 8.4 | 0 | 1.23 ± 0.60 |
| | | | 9-56 | 19.5 ± 5.0 | 0 | 1.54 ± 0.77 | 0 |
| 51d | Santa Ana River | Riverside | 5-55 | 0 | 16.2 ± 6.0 | 0 | 0 |
| | | | 9-55 | 10.2 ± 5.4 | 0 | 0 | 0.73 ± 0.58 |
| | | | 5-56 | 12.8 ± 5.1 | 0 | 0.82 ± 0.69 | 0 |
| | | | 9-56 | 11.7 ± 5.4 | 0 | 0 | 0 |
| 51e | Santa Ana River | Norco | 9-55 | 15.0 ± 5.4 | 7.7 ± 5.3 | 2.15 ± 0.71 | 0 |
| | | | 5-56 | 11.0 ± 5.1 | 12.8 ± 7.6 | 0 | 0 |
| | | | 9-56 | 8.2 ± 5.3 | 0 | 0.83 ± 0.59 | 0 |
| 86 | Chino Creek | Chino | 5-55 | 18.4 ± 6.2 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 10.5 ± 6.8 | 0 | 0 |
| | | | 9-56 | 23.0 ± 5.6 | 0 | 0 | 0.51 ± 0.44 |

TABLE 27

RADIOASSAY OF SURFACE WATERS

SAN DIEGO REGION

| Sta. No. | Stream | Near | Date | Micro-micro curies per liter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Dissolved Beta | Solid Beta | Dissolved Alpha | Solid Alpha |
| 51c | Santa Margarita River | Fallbrook | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0.60 ± 0.40 | 0.81 ± 0.57 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 5.7 ± 5.3 | 0 | 0 | 0 |
| 62 | San Luis Rey River | Pala | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 0 | 0 | 0 |
| | | | 5-56 | 0 | 6.9 ± 6.4 | 0 | 0 |
| | | | 9-56 | 0 | 0 | 0 | 0 |
| 63 | Escondido River | Harmony Grove | 5-55 | 11.2 ± 6.2 | 7.1 ± 6.4 | 0 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| 65 | San Diego River | Old Mission Dam | 5-55 | 0 | 0 | 0 | 0 |
| | | | 9-55 | 0 | 15.9 ± 5.4 | 0.81 ± 0.56 | 0 |
| | | | 5-56 | 0 | 0 | 0 | 0 |
| | | | 9-56 | 11.1 ± 5.6 | 0 | 0 | 0 |

# APPENDIX B

## Procedures and Interpretation of Results for Water Pollution Radioassay

APPENDIX B

PROCEDURES AND INTERPRETATION OF RESULTS
FOR WATER POLLUTION RADIOASSAY
(Revised September 11, 1957)

## I. ANALYTICAL PROCEDURES

### A. Sample Preparation

1. Samples are collected in one-half gallon jugs during the routine stream sampling program.

2. On receipt in the laboratory, each sample is well mixed, and two - 250 ml aliquots taken. Each is acidified with a few drops of glacial acetic acid, and two drops of colloidal graphite suspension (aquadag) added.

3. The aliquot is filtered under suction through a membrane ("Millipore") filter, which retains suspended particulate matter of approximately 0.2 microns diameter and larger. Filters are treated with an antistatic preparation (Merix Anti-Static #79-01) to eliminate any extraneous electrostatic charge.

4. The filtrate is placed in a 250 ml volumetric flask, inverted and the mouth placed in a 1 3/4" x 1/4" aluminum culture dish in a "chicken-feeder" type arrangement. The flask is supported by a ring stand; the dish rests on a hot plate adjusted so that the sample is taken to dryness at a temperature well below boiling.

5. At this point there are duplicate samples of both suspended solids and dissolved material from each original water sample ready for determination of radioactive content.

### B. Counting Techniques

1. Two determinations are made on each sample, one for gross beta one for gross alpha radioactivity. This represents a total of eight determinations for each original sample.

2. Beta activity is determined with an internal gas flow counter operating in the proportional region, using argon-methane mixture as a flow gas. Background determinations are made before the first sample count each day, and then after each two sample counts throughout the day. Determinations of counter efficiency are made with a reference standard (thallium - 204) at least twice daily. Each determination of sample and background count rate is made for a total of 4096 counts. Since samples are run in duplicate, the total time for each sample count and background determination is 64 minutes.

3. Alpha activity is determined with a scintillation counter utilizing an activated zinc sulfide phosphor. Sample, background and efficiency measurements are made in the same manner as are the beta measurements. Polonium -210 is used as an alpha reference standard. Each determination of sample and background count rate is made for a pre-set time of 32 minutes.

C. Calculations

1. Results are expressed as micromicrocuries per liter (uuc/l). One micromicrocurie is equivalent to 2.22 disintegrations per minute. Four values are reported for each sample: (a) beta activity in the solids retained on the filter; (b) beta activity in the filtrate (dissolved material); (c) alpha activity in the solids; and (d) alpha activity in the filtrate.

2. Sample counts are corrected for background and geometric efficiency.

3. Standard statistical procedures are utilized to compute the 0.9 error. The final result is expressed (symbolically) as $x \pm y$ uuc/l. This means that in a series of determinations on the same sample, the value of x should fall between $x - y$ and $x + y$, 90 per cent of the time.

4. In cases where zero or negative values are included between the limits of $x + y$ and $x - y$ the result is reported symbolically as -0- .

II. LIMITATIONS OF METHODS EMPLOYED

A. Sample Preparation

A perfect sample for determination of radioactive content would be infinitely thin, and would contain all of the constituents of the original material except the water.

In practice, those criteria are virtually impossible to attain. Essentially infinitely thin samples can be prepared only from water with low solid and dissolved salt contents. Some solid and dissolved materials are absorbed on the walls of vessels used in sample collection and preparation. Volitilization and losses from spattering during volume reduction cannot be completely avoided.

Thus, obviously, radioassay results are dependent upon sample preparation techniques.

B. Nature of the Radioactive Disintegration Process and the Measurement thereof.

At least three basic phenomena make the exact determinations of low levels of radioactivity extremely difficult. These are:

1. The random nature of the radioactive disintegration process limiting the accuracy of any determination because of statistical fluctuations inherent in the counting data.

2. The low ratio of sample count to background count. Any detector of radioactivity always measures (in the absence of an active sample) at a certain - and not always constant - level, which is termed the background radiation level. This is caused by cosmic radiation, traces of naturally occuring radioactive materials, and sometimes by "noise" characteristic of the electronic equipment used. In making determinations on samples in which the counting rate is only slightly higher than the background counting rate, inherent errors are relatively large.

3. Self-absorption. Unless samples are essentially infinitely thin, alpha and low-energy beta radiation arising from the lower layers of the samples may not penetrate the upper layers, and therefore remain undetected.

   Corrections can be made for self-absorption when dealing with known radioisotopes. In cases where the contaminant is not identifiable, these corrections cannot, as a rule, be made.

C. Calculations

There are three values which can be lead to errors in the reported results. These are:

1. Geometric efficiency. This factor is determined using artificial standards. These are not prepared in the same manner as samples. Also it is possible that the energy of radiations emanating from the two standards may be significantly different from the unknown. Both of these considerations make the factors used rather artificial, and somewhat in error. It is not possible to determine the magnitude of this error, although it is probably not large in most cases.

2. Errors in sample count. Reasons for this were discussed in sections A and B above.

3. Errors in confidence limits. Statistical computations made are based on the Gaussian approximation of the Poisson distribution law. At low count rates this approximation is subject to error.

   The calculated confidence limits are based solely on statistical fluctuations caused by the random nature of the radioactive disintegration process. It is assumed that counts produced by background radiation and by electronic noise are also random.

   All of the foregoing would tend to indicate that absolute determination of low levels of radioactivity is impossible. This is true, but by taking every possible measure to reduce sources of error it is possible to obtain a relatively accurate measure of these low levels. As activity levels increase from near background, the precision of measurement increases correspondingly.

## III. LIMITS OF DETECTABILITY

### A. Minimum Detectable Levels

1. Beta Activity: Equipment and techniques used are such that the minimum reliably detectable beta activity amounts to 7-8 uuc/l.

2. Alpha Activity: Due principally to lower levels of alpha background radiation, alpha activity of the order of 1 uuc/l can be reliably detected.

There is one situation in which it is not possible to report such small amounts of activity. Some stream samples contain particulates of an amount and size distribution that causes the filter to clog. In such cases, it is not possible to filter a full 250 ml sample. Consequently, in applying the volume factor (see Sample Calculations) to subsequent calculations, a large error is introduced.

### B. Minimum Detectable Changes in Levels of Radioactivity

Knowing minimum detectable quantities of radioactivity, it is then pertinent to inquire as to the minimum increases above these which can be reliably measured. It is not possible to assign fixed values here, but it amounts to about 2 uuc/l for beta, and 0.3 uuc/l for alpha contamination.

## IV. INTERPRETATION OF RESULTS

The various factors which limit the accuracy of measurement should be kept in mind in making interpretations of results. These factors are of considerable consequence for determinations which are only slightly above the background level, which is generally the case here.

The maximum concentration of radioactive contaminants of unknown nature in drinking water has been set at 100 uuc/l. In this study, levels this high are generally not expected. The purpose is to establish a baseline or background level, and to provide a continuing check to determine if and when increases occur as a result of rapidly expanding peacetime uses of radioactive materials.

## V. SAMPLE CALCULATIONS

$R_s$ = Average count rate of duplicate samples = 55 counts/minute

$R_b$ = Average count rate of background determinations = 50 counts/minute

Net count = $R_s - R_b$ = 55 - 50 = 5 counts/minute

t = time of sample count = count = time of background count = 64 minutes

$$\text{Activity} = \frac{5 \text{ c/m} \times 4 \text{ (volume factor to put on a liter basis)}}{0.5 \text{ (geometric efficiency factor)} \times 2.22 \text{ d/m/uuc}} = 18.0 \text{ uuc/l}$$

$$0.9 \text{ confidence level} = 1.645\sqrt{\frac{R_s}{t} + \frac{R_b}{t}}$$

$$= 1.645\sqrt{\frac{55}{64} + \frac{50}{64}}$$

$$= 2.1 \text{ counts/minute}$$

$$\frac{2.1 \times 4}{.5 \times 2.22} = 7.6 \text{ uuc/l}$$

Thus the activity of this sample is 18.0 ± 7.6 uuc/l

This means that in a series of determinations on this sample, 90 per cent of the time the value would fall between 10.4 and 25.6 uuc/l.

This basic formula is used for alpha and beta determinations. For alpha, ts and tb are constant. For beta, ts and tb are constant. For beta, ts and tb are variable and are functions of $R_s$ and $R_b$ respectively.

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